RAIL SAFETY TECHNOLOGY

HEARING

BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION,
AVIATION AND MATERIALS

OF THE

COMMITTEE ON
SCIENCE, SPACE, AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

FIRST SESSION

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**Resigned February 19, 1987 (H. Res. 89).
***Elected March 30, 1987 (H. Res. 133).

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RAIL SAFETY TECHNOLOGY

WEDNESDAY, FEBRUARY 25, 1987

House of Representatives,
Committee on Science, Space, and Technology,
Subcommittee on Transportation,
Aviation and Materials,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room 2318, Rayburn House Office Building, Hon. Dave McCurdy (chairman of the subcommittee) presiding.

Mr. McCurdy. Good afternoon. This is the first hearing of the Subcommittee on Transportation, Aviation and Materials for the year, and we will be dealing with rail safety technology.

I am Dave McCurdy, chairman of the subcommittee, joined by my colleague, the ranking member from Florida, Mr. Lewis and Mr. McMillen from the State of Maryland, who has a very real interest in this subject.

We may be having a vote on the floor in a matter of minutes, so we are going to go ahead and proceed.

On January 4th, an Amtrak train operating from Washington, D.C. to Boston collided with three Conrail locomotives near Chase, Maryland. Sixteen people died in that accident, and more than 170 were injured.

The preliminary evidence indicates that the Conrail locomotive was operated past a stop signal, through a switch, and onto the main track immediately ahead of the high-speed Amtrak train. Preliminary investigations also indicate that two key safety systems in the lead Conrail locomotive were inoperable. A light bulb was missing on the critical signal indicator in the cab, and a warning whistle had been taped up, so that it could not be heard over the noise of the engine.

In spite of all this, the accident could have been prevented if the Conrail locomotive had been equipped with an automatic speed control system, such as those used by Amtrak trains in the Northeast Corridor.

Our hearing today will examine the rail safety issues arising from this tragic accident, especially those related to the use of various safety technologies, such as automatic train control and warning systems.

This subcommittee has had a longstanding interest in pushing for the use of modern technology and to improve transportation safety, and we intend to take a close look at the status of the various rail safety systems available now and in the future.

I look forward to an informative and productive hearing and wish to thank the expert witnesses who have agreed to assist us today.

At this point, I would like to recognize the gentleman from Florida, Mr. Lewis, for any opening comments he may have.

Mr. **Lewis**. Thank you, Mr. Chairman.

The importance of rail safety for the United States cannot be overemphasized. An Associated Press story on U.S. rail expansion this past Monday added emphasis to this point. The article stated that there is a need for a new generation of high-speed diesel locomotives and turbotrains for the Northeast Corridor to provide better transportation.

The growth of the railroad transportation industry in this area and other parts of the country, including South Florida, emphasizes the need for improved safety. The past few years have seen a reduction in the number of railroad accidents nationwide. Nevertheless, it is important to explore the various technologies that would have prevented such accidents as the one that occurred in Chase, Maryland.

Therefore, this hearing should provide us with valuable information on ways of improving railroad safety.

And, Mr. Chairman, I want to commend you for calling this timely hearing, and I look forward to hearing from our expert witnesses.

Thank you.

Mr. **McCurdy**. Thank you, Mr. Lewis.

Mr. McMillen, any comments at the outset?

Mr. **McMillen**. Not at this time, Mr. Chairman.

Mr. **McCurdy**. We are pleased to have Mrs. Bentley, Helen Bentley, from Maryland joining in the hearing today, and we certainly are glad that you are able to be here and look forward your participation in this hearing.

Our first witness today is Mr. Jim Burnett, Chairman of the National Transportation Safety Board. Mr. Burnett, welcome, and please identify those that are accompanying you today for the record, and you may proceed.

STATEMENT OF JIM BURNETT, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY DR. BERNARD S. LOEB, DEPUTY DIRECTOR, BUREAU OF ACCIDENT INVESTIGATION; AND WILLIAM G. ZIELINSKI, CHIEF, RAILROAD ACCIDENT INVESTIGATION DIVISION

Mr. **Burnett**. I'd like to say first that we would like to congratulate the new leadership of the Committee. We are pleased to be here for the maiden hearing of this year of the Committee, and although I've testified in connection with aviation matters many times before this Committee, this is the first time on rail matters, and we appreciate your attention to the important matters of railroad safety in this country.

I would like to introduce, to my right, Dr. Bernard S. Loeb, who is the Deputy Director of our Bureau of Accident Investigation, and to my left, Mr. William G. Zielinski, who is the Chief of our Railroad Accident Investigation Division.

I will focus my testimony on four issues: automatic train control, radio communications, alcohol and drug use, and passenger car interior safety.

I want to submit my testimony for the record and give a brief summary, Mr. Chairman, if that would be all right.

Mr. McCurdy. That's appropriate, and the full text of your remarks will be included in the record.

Mr. Burnett. As early as 1970, the Safety Board recommended that the Federal Railroad Administration study the feasibility of requiring a form of automatic train control at points where passenger trains are required to meet other trains. The issue arose again in an investigation of the rear-end collision of two Texas & Pacific Railway freight trains at Meeker, Louisiana in 1975. The Safety Board determined that the engineer had failed to comply with a restrictive signal aspect.

In January 1976, the Board issued a safety recommendation that the FRA promulgate regulations to require an adequate backup system for main-line freight trains that would ensure that a train is controlled as required by the signal in the event that the engineer fails to do so. The FRA responded by stating that it believed the immediate answers to the problem were improved training and effective testing, rather than installation of costly mechanical or electrical backup devices.

Although the Chase, Maryland accident which you have referred to, Mr. Chairman, remains under investigation, the Safety Board believes that an automatic train control device on the Conrail locomotive probably would have prevented the accident. Further, it is apparent that Amtrak's Northeast Corridor timetable modification, implemented as an alternative response to a 1978 Safety Board recommendation, did not provide the level of safety required by high-speed passenger service.

Consequently, the Safety Board recommended last month once again that Amtrak require all trains operating on the high-speed passenger tracks of the Northeast Corridor be equipped with devices that will control the train automatically.

Another issue of longstanding concern to the Safety Board is the use of radios to improve communications in rail operations. To underscore our continued interest in this important safety issue, the Board issued a safety recommendation to the FRA in January of last year asking it to require that radios be installed on trains and to provide requirements for their use, for their compatibility among railroads and for their maintenance.

In the Chase accident, there was no operable train radio on the Conrail locomotive capable of providing train-to-train and train-to-fixed-station communications. The Conrail engineer stated that he broadcast an emergency message that he could not stop, but the Safety Board has no other evidence that the message was made or received.

The Safety Board also has addressed the issue of operable radios with Amtrak, recommending that all trains operating on a main track be equipped with an operable radio. Last month, the Safety Board reemphasized this issue by recommending to Amtrak that it require all locomotives allowed to enter and operate on the high-speed passenger train trackage of the Northeast Corridor to be equipped with an operable radio capable of train-to-train and train-to-fixed-station communications. This recommendation was made in conjunction with the Chase accident.

Another issue vital to rail safety is the use of alcohol and drugs before or on the job. As the Committee knows, toxicological tests of blood and urine samples were provided under the FRA regulations by some members of the crews of both trains in the Chase accident. The results for those crewmembers who provided samples were negative, except for the engineer and the brakeman of the Conrail train. Tests of the urine and blood samples of these two employees indicated the presence of both psychoactive and the non-psychoactive constituents of marijuana.

It is too early for the Safety Board to evaluate any effects the presence of the marijuana may have had in this accident. Safety Board Human Performance Investigators are engaged in a very thorough investigation of the background of these employees. The information thus gathered will be used along with the toxicological test results to analyze this accident.

Control of alcohol and drug use in railroad operations is a truly critical safety issue. In my first speech as Chairman of the Safety Board in June of 1982, I said that alcohol and drug use in the rail industry had disaster potential. The Board called for the FRA to produce appropriate regulations as soon as possible. The adoption of federal regulations prohibiting consumption of alcohol and use of drugs by operating employees before and during duty hours and providing for toxicological testing after most accidents has formed a framework under which the Board's objective to reduce the incidence of alcohol and drugs in railroad accidents could be achieved.

Certainly, if it were not for such a rule, we would not now have the results that we do have. Indeed, without these regulations, we would not have the additional evidence that tells us just how thorough a human performance investigation we need to conduct.

However, this horrendous accident has also pointed out that the regulations do not guarantee that all covered crewmembers will be tested properly and in a timely manner following accidents addressed in the rule. In the Chase accident, three Amtrak crewmembers and the Amtrak dispatcher at Philadelphia did not provide samples and thus were not tested in accordance with the rule.

Now, several days later after this was discovered, they did provide samples to the Safety Board, and those are in the process of analysis at this time. But, of course, that would be irrelevant as to alcohol and to some drugs.

Samples from one other Amtrak crewmember were obtained from a Baltimore hospital after the crewmember went to the hospital for medical aid. The samples were then obtained by the FRA and were tested pursuant to the rule.

Application of the rules was far from orderly, and more than half of those who should have been tested were not tested in accordance with the FRA regulations.

As part of its accident investigations, the Board plans to review implementation of the federal rule by the railroads, because the critical test of its success will be the extent of its application by the rail industry and of its enforcement by the FRA. The Board is concerned that certain employees may not be tested, because railroads may not have established adequate procedures to maintain oversight of all covered employees following an accident and to present them for testing within the time requirements of the regulation.

The Safety Board's investigation of the Chase accident also has highlighted concerns about the safety of—and this is the final issue—passenger car interiors. The Board has compiled extensive documentation illustrating that passenger injuries occur as a result of the injury-producing features in the passenger car interiors. Seat and seat restraint failures, lack of padding covering metallic parts of the seats, and inadequate baggage restraints are some of the specific injury-producing features causing our concern.

The Board repeatedly has urged both industry and the FRA to take the necessary action to enhance the safety of passenger cars. The investigation of an Amtrak train collision at Wilmington, Illinois in July of 1983 revealed inadequacies in the design of passenger car interiors, and as a result, the Board issued a recommendation which called for the FRA to expedite studies on the interior design of passenger cars and publish recommended guidelines for securing seats and for luggage retention devices.

The Board's investigation of an Amtrak train derailment at Kittrell, North Carolina in March 1984 demonstrated again the need for luggage retention devices, and this was reiterated to the FRA. In June 1985, the FRA responded to the Board's recommendation and indicated that it planned to take no further action. The Board expressed disappointment in this decision, in view of the overwhelming documentation that injuries have occurred and continue to occur as a result of the features of the passenger car interiors, particularly unrestrained luggage from the overhead racks.

The Safety Board also has issued recommendations over the years directly to Amtrak regarding improvements in the design of passenger car interiors. These recommendations have been directed at baggage retention of overhead luggage, inadequately secured equipment, seat locking devices, and padding covering metallic seat parts.

Amtrak has made some changes as a result of these recommendations but has failed to implement fully a number of the recommendations, especially those relating to improved luggage retention.

Reports of seat failures and loose microwave ovens in the cars involved in the Chase accident again suggest that further action is needed in securing seats and also equipment in the food service cars and overhead luggage. The Safety Board will scrutinize closely the effect of the improvements instituted thus far by Amtrak and will assess the need for further recommendations.

Mr. Chairman, that completes my summary. I will be pleased to respond to the committee's questions.

[The prepared statement of Mr. Jim Burnett follows:]

Safety Information

National Transportation Safety Board
Washington, D.C. 20594

Testimony of

Honorable Jim Burnett

Chairman, National Transportation Safety Board

before the

Subcommittee on Transportation, Aviation and Materials

Committee on Science, Space and Technology

House of Representatives

Regarding

Railroad Safety

February 25, 1987

Mr. Chairman, Members of the Committee, I am pleased to have the opportunity to be with you today to discuss rail safety issues. The tragic train accident that occurred near Chase, Maryland on January 4 has served to underscore the need to take another look at what improvements have been made in rail safety and what further needs to be done.

Since the Committee is well aware of the events surrounding the Chase collision involving an Amtrak and a Conrail train, I won't take the time now to review the details. Instead I will focus my testimony on four railroad safety issues which are relevant to this and many other accidents; automatic train control, radio communications, alcohol and drug uses, and passenger car interior safety.

Automatic Train Control

The Safety Board long has been concerned with the issue of the operation of non-passenger trains on the same tracks as higher speed passenger trains. In the case of the January accident, Conrail locomotives were not equipped with a device that could have controlled them automatically as required by the appropriate signals if the engineer failed to respond properly. Thus, they were able to enter the high speed (over 100 mph) passenger train main track of the northeast corridor even though the home signal indicated that the train should stop. This main track had been cleared previously for occupancy by Amtrak train No. 94.

As early as 1970 we recommended that the Federal Railroad Administration (FRA) study the feasibility of requiring a form of automatic train control at points where passenger trains are required to meet other trains. In 1972, the FRA told us that they had conducted such a study and found that the best system would appear to be a hybrid, composed of both present and proposed levels of mechanical control. According to the FRA, an automatic train control system was not possible at that time because of its costs and extensive installation time.

The issue arose again in an investigation of a rear-end collision of two Texas and Pacific Railway freight trains at Meeker, Louisiana in 1975. The Safety Board determined that the engineer had failed to comply with a restrictive signal aspect. In January 1976 the Board issued a safety recommendation that the FRA promulgate regulations to require an adequate backup system for mainline freight trains that will ensure that a train is controlled as required by the signal in the event that the engineer fails to do so.

The FRA responded by stating that it believed the immediate answers to the problem were improved training and effective testing rather than installation of costly mechanical or electrical backup devices. The FRA repeated this assessment in 1977, responding that it intended to complete an analysis of training and testing procedures in the railroad industry. The agency estimated that constructive action will be about 2 years in the future.

Additional communications with the FRA took place during the early and mid 1980s without satisfactory action being taken.

As a result of an accident at Seabrook, Maryland in June 1978 in which a Conrail commuter train struck the back of an Amtrak passenger train, the Safety Board issued a safety recommendation in which it asked Amtrak, specifically, in June 1978 to require all trains that operate on the northeast corridor to be equipped with an automatic train control system.

Amtrak responded in November 1980 that, as a result of this recommendation, the northeast corridor timetable had been modified to require that a train not equipped or equipped with an inoperable speed control system must not pass a signal displaying a stop and proceed indication except when the conductor or engineman has been given verbal authority to do so by the train dispatcher or authorized operator. The timetable modification further stated that if, after stopping for three minutes, the conductor or engineman of the train is unable to communicate with the train dispatcher or operator, the train may proceed.

Amtrak wrote the Safety Board in August of 1981 that they were surveying all equipment in the northeast corridor to determine the scope of noncompliance with the recommendation. In February 1982, Amtrak again wrote to the Safety Board stating that all Amtrak-owned locomotives and self-propelled cars operated in revenue service in the northeast corridor were equipped with automatic train control devices. Amtrak reiterated that it had modified the timetable and that prohibition of the operation of vehicles not equipped with automatic train control devices would disrupt service on the northeast corridor significantly. Amtrak further stated that the modified timetable had been in effect for more than one year without disruption of service. Amtrak asked the Board to reconsider the intent of this recommendation.

In September 1982 the Safety Board wrote Amtrak that, in view of the information provided, Amtrak's actions were considered an acceptable alternative to the intent of the recommendation.

Although the Chase accident remains under investigation, the Safety Board believes that an automatic train control device on the Conrail locomotive probably would have prevented the accident. Further, it is apparent that Amtrak's northeast corridor timetable modification did not provide the level of safety required by high speed passenger service.

Consequently, the Safety Board recommended last month once again that Amtrak require all trains operating on the high speed passenger tracks of the northeast corridor to be equipped with devices that will control the train automatically as required by the signals if the engineer fails to do so. The Safety Board also has asked that, pending the installation of such devices, Amtrak require that the operators of all trains not equipped with such devices stop before entry, regardless of signal aspect, and secure positive clearance to enter the track before proceeding further.

Radio Communications

Another issue of longstanding concern to the Safety Board is the use of radios to improve communications in rail operations.

Safety recommendations have been issued to the FRA and the Association of American Railroads (AAR) stressing the need for radios to be required equipment on trains, for compatibility of radios between railroad properties, and for standards governing the use of radios in industry. Recommendations also have been issued to various individual properties on the same issues.

To underscore our continued interest in this important safety issue, the Board issued a safety recommendation to the FRA in January 1986 asking it to require that radios be installed on trains and to provide requirements for their use, for their compatibility among railroads and for their maintenance.

In the Chase accident, there was no operable train radio on the Conrail locomotive capable of providing train-to-train and train-to-fixed station communications. The Conrail engineer stated that he broadcast an emergency message that he could not stop, but the Safety Board has no evidence that the message was made or received.

The Conrail locomotive radio normally used for train-to-train or train-to-fixed station communication was inoperative. The contrail engineer had only a portable type of radio, not well suited for this purpose. Whether or not evidence gathered in the investigation supports the engineer's contention that he tried to make an emergency broadcast prior to the collision, this accident points out the potential need for an operable radio capable of train-to-train and train-to-fixed station communications.

As a result of its investigation of the head-on collision of Burlington Northern freight trains near Westminster, Colorado in August 1985, the Board reiterated and reemphasized the importance of this safety recommendation. Investigation of the accident revealed that operating personnel involved in the accident had complained about the performance of the radio installed on one of the trains. The FRA conducted public hearings on the general topic of radio communications in the railroad industry last month in which I participated. The Safety Board will continue to aggressively pursue the issue of ineffective radio communications with the FRA.

For the record, the Safety Board also has addressed the issue of operable radios with Amtrak, recommending that all trains operating on a main track be equipped with an operable radio.

The Board's investigation of a head-on collision at Edison, New Jersey in April 1974 revealed that Amtrak's passenger train had been allowed to depart New York with an inoperative radio. The Board points out that this recommendation was cast in terms of Amtrak-owned equipment, and Amtrak ultimately complied with the intent of the recommendation.

Last month the Safety Board reemphasized this issue by recommending to Amtrak that it require all locomotives allowed to enter and operate on the high speed passenger train trackage of the northeast corridor to be equipped with an operable radio capable of train-to-train and train-to-fixed station communications. This recommendation was made in conjunction with the Chase accident.

Alcohol and Drug Use

Another issue vital to rail safety is the use of alcohol and drugs before or on the job. As the Committee knows, toxicological tests of blood and urine samples were provided under the FRA regulations by some members of the crews of both trains in the Chase accident. The results for those crew members who provided samples were negative except for the engineer and the brakeman of the Conrail train. Tests of the urine and the blood samples of these two employees indicated the presence of both the psychoactive and the non-psychoactive constituents of marihuana.

It is too early for the Safety Board to evaluate any effects the presence of the marihuana may have had in this accident. Safety Board human performance investigators are engaged in a very thorough investigation of the background of these employees. The information thus gathered will be used along with the toxicological test results to analyze this accident.

Control of alcohol and drug use in railroad operations is a truly critical safety issue. In my first speech as Chairman of the Safety Board in June 1982, I said that alcohol and drug use in the rail industry had "disaster potential." The Board called for the FRA to produce appropriate regulations as soon as possible.

The adoption of federal regulations prohibiting consumption of alcohol and use of drugs by railroad operating employees before and during duty hours and providing for toxicological testing after most accidents has formed a framework under which the Board's objective to reduce the incidence of alcohol and drugs in railroad accidents could be achieved.

Certainly, if it were not for such a rule, we would not now have the results of the toxicological tests of that portion of the surviving members of the train crews in the Chase accident that were tested. Indeed, without these regulations we would not have the additional evidence that tells us just how thorough a human performance investigation we need to conduct.

However, this horrendous accident has also pointed out that the regulations do not guarantee all covered crew members will be tested properly and in a timely manner following accidents addressed in the rule. In the Chase accident, three Amtrak crewmembers and the Amtrak dispatcher at Philadelphia did not provide samples and thus were not tested in accordance with the rule. Samples from one other Amtrak crewmember were obtained from a Baltimore hospital after the crewmember went to the hospital for medical aid. The samples were then obtained by the FRA and tested. Application of the rules was far from orderly, and more than half of those who should have been tested were not tested in accordance with the FRA regulations.

In commenting in 1984 on the FRA's proposed rulemaking on alcohol, the Safety Board stated that the final rule should state clearly that the post-accident testing program supplements rather than replaces the Safety Board's authority in the Independent Safety Board Act of 1974 to order an autopsy. It should point out also that the Board has authority to seek other tests of train crews or the samples drawn from them under this rule, as well as authority to obtain or take possession of any evidence which pertains to an accident.

As part of its accident investigations, the Board plans to review implementation of the federal rule by the railroads, because the critical test of its success will be the extent of its application by the rail industry and of its enforcement by the FRA. The Board is concerned that certain employees may not be tested because railroads may not have established adequate procedures to maintain oversight of all covered employees following an accident and to present them for testing within the time requirements of the regulation.

Another concern of the Board's is that the dollar value of damage in accidents estimated by railroads may be understated to keep it below the $500,000 threshold above which toxicological testingof employees is required under the federal regulation.

Passenger Car Interior Safety

The Safety Board's investigation of the Chase accident also has highlighted concerns about the safety of passenger car interiors. The Board has compiled extensive documentation illustrating that passenger injuries occur as a result of the injury producing features in the passenger car interiors. Seat and seat restraint failures, lack of padding covering metallic parts of the seats and inadequate baggage restraints are some of the specific injury producing features causing concern. The Board repeatedly has urged both industry and the FRA to take the necessary action to enhance the safety of passenger cars.

The Board's concern with the safety of passenger car interiors dates back to 1970 when, as a result of its investigation of an accident in Franconia, Virginia in January 1970, it recommended that the FRA institute immediate regulations requiring all future new and rebuilt passenger cars be equipped with secured seats and luggage retention devices.

The FRA responded initially that it would begin a study in this area and, based on an evaluation of the study, it would determine the need for regulations. The date for completion of this study was extended several times, and the Board has never received a final copy.

The investigation of an Amtrak train collision at Wilmington, Illinois in July 1983 again revealed inadequacies in the design of passenger car interiors and, as a result, the Board issued a recommendation which called for the FRA to expedite studies on the interior design of passenger cars and publish recommended guidelines for securing seats and for luggage retention devices.

The Board's investigation of an Amtrak train derailment at Kittrell, North Carolina in March 1984 demonstrated again the need for luggage retention devices, and this was reiterated to the FRA. In June 1985 the FRA responded to the Board's recommendation and indicated that it planned to take no further action. The Board expressed disappointment in this decision in view of the overwhelming documentation that injuries have occurred and continue to occur as a result of the features of the passenger car interiors, particularly unrestrained luggage from the overhead racks.

The Board cited another Amtrak accident in Astoria, Queens, New York in July 1984 which again revealed that these sources of injuries continue to pose a threat to passengers. The Board urged the FRA to reconsider its decision and to take action to implement its recommendation. No further response from the FRA has been received.

The Safety Board also has issued recommendations over the years directly to Amtrak regarding improvements in the design of passenger car interiors. These recommendations have been directed at baggage retention of overhead luggage racks, inadequately secured equipment, seat locking devices and padding covering metallic seat parts. Amtrak has made some changes as a result of these recommendations, but has failed to implement, fully, a number of the recommendations, especially those relating to improved luggage retention.

Reports of seat failures and loose microwave ovens in the cars involved in the Chase accident again suggest that further action is needed in securing seats, equipment in the food service cars and overhead luggage. The Safety Board will scrutinize closely the effect of the improvements instituted thus far by Amtrak and will assess the need for further recommendations.

Mr. Chairman, that completes my formal statement. I will be pleased to respond to questions.

Mr. McCurdy. Thank you, Mr. Burnett. We appreciate your summarizing that. You did so very effectively.

As I understand it, then, basically we—in the past, there have been recommendations as to changes in the schedules, a recommendation for automatic safety devices, recommendations for radios, some recommendations as they pertain to drugs or alcohol and on passenger car interior safety. That's briefly a summary.

In your opinion, what is the most critical rail safety problem that could be solved by using modern technology? Would that be the automatic safety devices?

Mr. Burnett. Well, there are new forms of automatic train control that are being examined as a result of modern technology. The concept of automatic train control is not a new one. It is, in fact, very old. In fact, back in the 1920s, we required it for all tracks on which passenger trains were being operated. And then as passenger train operations began to be largely discontinued on up into the '50s, that was dropped.

The new systems are technologically greatly advanced and potentially more greatly so than were the old systems. For instance, I know some railroads at this point are experimenting with automatic train control devices that rely on satellites to transmit the signal as to the signal aspect from the signal device to the satellite and down to the moving train. That has not been entirely perfected yet, but we would hope that it will be very shortly and can be used as one of the options that the railroads might have in fulfilling our recommendations.

Mr. McCurdy. Such things as overspeed control and alertor systems and automatic train control, are these—what has been the largest hurdle in the past? Is this an issue of cost? Is it an issue that they're difficult to retrofit, or it has to be designed into a locomotive or train?

What has been the reluctance, in your opinion, of the adoption of some of these newer technologies?

Mr. Burnett. Well, the answers that have been given by the Federal Railroad Administration, when we have suggested that they be required, has been that they're costly, and that there are cheaper ways of achieving the same results.

The Federal Railroad Administration several years ago gave us the answer that we needed to improve the quality of training, and the Safety Board certainly agrees with that, for railroad personnel to make it more scientific, make it similar in the use of simulators and scientific training programs to what we see in aviation, and also systematic. And the FRA indicated at that time that within a couple of years they would be coming forward with a program to do that.

Although there have been improvements in training on railroads, I have not seen anything that I could identify as being the FRA's program that they offered as an alternative to our recommendation.

They recently, since the Chase accident, sent us a letter when we reiterated our 1978 automatic train control recommendation, saying that they had determined the cost of equipping all main-line track and the locomotives that would be required in the United States at $13.8 billion.

Now if that's true, that's a very good argument. We are frankly skeptical of some of the figures they're giving us, but we want to take a longer look at it to see whether or not that skepticism is justified.

Mr. McCURDY. Has there been any independent analysis that you are aware of as to the overall cost of implementing these changes?

Mr. BURNETT. No, not that we are aware of.

Mr. McCURDY. One of the problems that I faced when I took this assignment was the realization that there weren't many independent agencies or independent bodies such as universities or research facilities that were conducting research, that there's a relatively small body of information there available.

Is this just due to the nature of the industry, or is it seen as an old industry, or why are we so behind other international systems, for instance; for instance, the Japanese?

Mr. BURNETT. I certainly think it's a view on the part of the Safety Board that the rail industry in this country, the basic structure was designed, I guess, largely as it is in the late Nineteenth Century, early Twentieth Century, and, for instance, when we make recommendations for systematic use of radios to the rail industry, which is something that because of our——

Mr. McCURDY. It doesn't appear to be too costly.

Mr. BURNETT. That's not on the technological forefront in the country, and yet we receive answers that, well, radios are an adjunct—this is from the American Association of Railroads—they say that they're an adjunct to rail safety; they can cause as many problems as they solve, basically that we ought to continue to rely on the old, established signal system. And there are some points, arguing points, to all of that, but it reflect the very, very conservative—not in the political sense, but in the economic sense—conservative mindset of the railroad industry.

Also complicating—and I think this may be one of the differences between our system and in foreign countries—is that more than any other industry we deal with, there is an adversarial labor/management relationship, which means that any kind of progress, even on safety, which should benefit both sides, that economic tradeoffs are asked for and demanded in order to get any progress done, and so every safety reform becomes enmeshed in a lot of other issues that we think are less important.

Mr. McCURDY. Very good. Tell me—the last question that I have, and then I'm going to turn to my colleagues—how do you view the FRA's role regarding safety recommendations, and do you feel that they've—and they're going to have a chance to respond here; this is not as if it's a clean shot—but how would you rate their responsiveness on these considerations?

Is it your opinion that they are captive of the industry, or are they more concerned about the overall cost, or how much activity have they had here?

Mr. BURNETT. Well, I think there are several problems there, and I wouldn't want to adopt the language "captive of the industry." I know that's been charged.

Mr. McCURDY. You don't have to.

Mr. BURNETT. Basically, as compared to the rail regulatory situation with what we see, for instance, in aviation where there's that pervasive, and has been from the beginning of commercial aviation in this country, a pervasiveness of regulation, whereas the railroad industry has always seen its property as its property. It's very much a property-rights type situation, and there's very little in the way of regulation, and most of it that's there has been stimulated by the labor/management issue, in my opinion, rather than by a public interest, the general public interest type of approach that influences aviation regulation.

So we have basically a less regulatory presence, a less enforcement presence, than we would have in some other areas. And for that reason, the Safety Board issues relatively few recommendations to the Federal Railroad Administration. Often we go directly to the railroads with our recommendations, which we almost never do in aviation, simply because we know that probably the best way to get something done is going to be directly with the companies.

So that, I think, causes the Federal Railroad Administration to have a less aggressive view of its role in the area of safety and economic areas.

I also think that we have to realize—and I think it's a valid point that the Federal Railroad Administration would raise—that a few years ago we had a sick industry, and any contemplation of any kind of radical regulation, like automatic train control, if we want to say that that would be a major change in the regulatory climate, would be something that that industry might not be able to bear.

What we have seen through deregulation has been, more than any other of the transportation industries, a shot in the arm coming to the rail industry because of deregulation, and they have used a lot of that new capital that they've been able to generate to improve track, and that has improved the safety of rail operations.

The question is, is that enough? It's a fact that we've made all this improvement in track. Should we sit back and say, "Well, we've made big gains in rail safety; we can pat ourselves on the back and not worry about anything more," and the Safety Board frankly believes that that's not, that we should continue to make substantial technological progress aimed at the protection of the public safety in the railroad area and not stop where we are.

Mr. McCurdy. Very good.

The gentleman from Florida, Mr. Lewis?

Mr. Lewis. Thank you, Mr. Chairman.

Chairman Burnett, does the NTSB recommend using ATC throughout the Northeast Corridor?

Mr. Burnett. Yes, we have made that recommendation recently for the second time, and we believe that—we made it directly to Amtrak, not to the Federal Railroad Administration—although we haven't gotten a formal reply, I have every indication that Amtrak seems to be going ahead with that. In fact, Conrail and perhaps some of the other railroads that operate in the Northeast Corridor are taking steps to equip their locomotives with automatic train control.

The trackage system is already equipped on the Northeast Corridor. So the only thing that has to be done is to designate those locomotives that are going to be used in Northeast Corridor service and to equip them with the onboard portion of the equipment.

Mr. LEWIS. Do you have the authority to say that the ATC will be installed on a locomotive or the locomotive can't be used?

Mr. BURNETT. No, the Safety Board does not have that authority. We have no regulatory authority whatsoever, only the right to make recommendations. And, of course, the Federal Railroad Administration, I suppose, would be able to require that. However, we have felt, it's directly in Amtrak's interest, since they've already gotten all of their passenger trains equipped, I think they have all of their locomotives that are used in work, for working the track and that sort of thing, equipped at this point, and they need to to that—so it would be in Amtrak's interest to implement that and they'll probably do so, without a regulatory action.

Mr. LEWIS. Have you been in communication with the Federal Railroad Administration about the use of ATCs on these locomotives?

Mr. BURNETT. Well, of course, we have the broader recommendation that we have reiterated since the Chase accident, going far beyond the Northeast Corridor for the use of ATC.

They have replied to us that they agree with us, that it ought to be done on the Northeast Corridor, because the track has already been equipped, and so you only have the cost of adding it to the locomotives. But they do not agree with us beyond that.

And I might say that the recommendation that we reiterated, the 1978 recommendation, was one made before I was on the Board. I think if you literally look at it as all main-line track in the United States, it may very well go too far. But I think the Federal Railroad Administration is not even trying to meet us halfway on the issue, and I think much of the main-line track that is used, other main-line track beyond that in the Northeast Corridor that is used for passenger train service or intensive hazardous material service, it needs to be so equipped.

Mr. LEWIS. What is the Safety Board's policy on trying to cover the area of alcohol and drug abuse with railroad employees? What kind of recommendations have you made to the FRA on that?

Mr. BURNETT. Essentially, from our view, we have been the instigators of the attention that's been given in the last few years to the alcohol and drugs. I will say, that may be an invalid claim, because the FRA did a very important study a few years ago looking at alcohol use on the railroads, which was the basis—a large amount of the basis of our concern, as well as having seen suspicious circumstances in rail accidents, but not having any way of proving whether or not, in fact, alcohol abuse was involved.

So we began back in 1982 to urge that we have federal rulemaking in this area. When John Riley became Administrator, he moved forward on alcohol and drug rule that we believe, although we could quibble and certainly do quibble with some of its provisions, we believe is a good framework for keeping the alcohol and drug abuse issue from ever being swept under the rug again, as I believe it was previously.

And therefore we now know, as we would not have known if we had not had that rule, that we have an alcohol and drug issue in the Chase, Maryland accident.

The rule does not solve the problem, but it certainly is a beginning to do that. I think the keystone of the rule as adopted by the

Federal Railroad Administration was what we call "for-cause" testing. They not only require testing after accidents, but authorize the railroads to do "for-cause" testing. An example would be someone who runs through a signal. You don't have an accident, but a railroad officer observes it, and that officer could require the crew to submit to a test. Or you could have absenteeism, for instance, which could be a basis for "for-cause" testing.

At that time, the Federal Railroad Administration convinced me that that was a superior way of approaching the testing problem to random testing, which I had previously thought would be a good thing.

Now DOT has sort of gone over their heads and is now advocating random testing. I would still think that the best thing to do is for the railroad industry to implement the "for-cause" testing.

The problem with that is that I don't see any evidence, with the exception of two or three railroads, that the railroads are taking advantage of that rule, because they have to get out there, and they have to be present onsite, and they have to find some people who are violating some of the rules, and they have to provide for their testing.

Southern Pacific has done a very objective job of this, and they have cut the alcohol and drug involvement in their human performance accidents from about 30 percent when they began their testing program down to about 3 percent. So they have very strong evidence that it has worked for them. Yet many of the other railroads are not doing that, and that's one of the things that we're going to be looking at in this investigation. What has Amtrak been doing? What has Conrail been doing to take advantage of the "for-cause" testing authorization that was given them in the federal rule.

Mr. **Lewis**. Why do we have to wait until we have a tragic accident before we really look in to see what's been done on recommendations that you've made quite awhile back?

Mr. **Burnett**. Well, that's one of the things that I referred to in my speech to the American Association of Railroads in June of 1982. I said, "We will have this after some accident someday." The game is whether or not we're going to do it before we have that kind of result.

Now I don't—I want to be very, very clear that the Safety Board is not saying, and we don't know that we'll ever be able to say, that the Chase, Maryland accident was as a result of any alcohol or drug use, because the evidence is by no means clear, and we still have further testing ongoing to try to refine what we have. So we can't say that Chase is the accident that we predicted might happen if we didn't get a hold of this problem.

Mr. **Lewis**. Well, I thought the testing samples indicated that marijuana had been used.

Mr. **Burnett**. Yes, but marijuana usage can be established over a period 30 days prior. Whether or not it can be pinned down to be within a framework of time that could have potentially affected the actions of this crew is something that is not clear.

Another thing we're not clear on, we don't have really good evidence as to what the performance effect of marijuana is. Nobody disputes that it is not good, but we don't know, as we do with—for instance, you can take a blood alcohol test, and you get a .06 blood alcohol content, you can relate that—we have research that can relate that pretty precisely to performance. We can't do that yet with marijuana as far as content, and we don't know about what the length of time impact is fully. There's some research in the area, but nothing that is equal to what we have in the area of alcohol.

Mr. LEWIS. One further question in this area, Mr. Chairman.

Isn't it a fact that the use of marijuana is illegal in the United States?

Mr. BURNETT. It certainly is. I think it's still illegal in all of the states.

Mr. LEWIS. And if a test came out showing a positive result, whether it was used three minutes ago or 30 days ago, that should be grounds for suspension or dismissal and non-operation of a vehicle that involves lives?

Mr. BURNETT. Oh, certainly. That has been the Safety Board's position, is that the illicit drugs, use of them any time, since we don't know exactly what their potential is for interfering with human performance, we ought to assume that it's bad, and to the extent that they're illegal——

Mr. LEWIS. I don't think we should assume anything. Assume, you make an ass out of you and me. And I think you can do that very clearly by trying to determine whether or not anyone is impaired. If you can do it with blood alcohol, and you know it's illegal to use the stuff, then that should be sufficient grounds for suspension or temporary suspension and not operating a vehicle.

Mr. BURNETT. Certainly. I agree with that. However, on the other hand, the Safety Board cannot say, because we know that a particular crew member used marijuana sometime within the previous 30 days, we cannot settle right there and say, "This was the cause of the accident." We have to go beyond that.

Mr. LEWIS. I recognize that.

Thank you, Mr. Chairman.

Mr. MCCURDY. Thank you, Mr. Lewis.

The gentleman from Maryland, Mr. McMillen?

Mr. MCMILLEN. Thank you, Mr. Chairman.

I am very happy to see my colleague from Maryland, Congresswoman Bentley, here, whose district suffered through this great tragedy, and I might add, I commend the citizens of Chase for their great rescue effort.

My questions revolve around really two points. One is the extent of regulation and also the extent of technology and its application here. I would like to follow up on the chairman's question on whether you feel that the FRA has been responsive in the enforcement of safety regulations.

Specifically, in the last five years, how many times have railroads been cited for safety violations and fined?

Mr. BURNETT. Well, I think the Federal Railroad Administration could give you that figure, and we don't maintain those. Obviously they are the ones that do the regulatory activity, and we ordinarily do not investigate their regulatory activity, except in connection with a specific issue in relation to an accident.

Mr. **McMillen**. But do you feel that they have been responsive and effective in their——

Mr. **Burnett**. Well, I think that the Federal Railroad Administration does not have a reputation for being aggressive in its enforcement activities. In fact, the idea has been broached in recent years, and it's arguable that it's a good idea, that they should be—that the Federal Railroad Administration should work with the railroads and not come in as an enforcer, as a cop, in order to work jointly with a constructive activity.

Although there's an argument for that, I don't share that attitude. I think when you give enforcement authority to an enforcement agency, that they should not be embarrassed about enforcement.

Mr. **McMillen**. I was concerned after reading Mr. Riley's testimony, they indicated that they discovered six locomotives with whistles disabled in an identical fashion. They had gone through and found other Amtrak locomotives that have been disabled. And he pointed out, this was really just the tip of the iceberg.

The fact is that even with technology and trying to restrict human performance here, we still have blatant attempts at making these things impotent.

Mr. **Burnett**. Well, I think one of the points we have to raise in that connection is perhaps the technology isn't good enough. In other words, our human performance specialists would say, if you have a whistle that people feel compelled to disable, there's something wrong with the whistle. If you have an alerting device that has become such an annoyance that everyone feels like they need to disable it, then you have to look at whether or not that device is as well-designed as it needs to be.

Now I would think with the alerting devices, as opposed to whistles, that will potentially stop the train. And is somebody wants to go eat lunch instead of running the locomotive, there's a motive there for disabling it that may exist, no matter what kind of technology you use.

But on the whistle, it has to do with whether or not the whistle is so unpleasant that it not only alerts somebody, but they feel like they cannot live with it.

So I think there's a call for some improved technology in that regard. We are aware, even in the comparably high-tech aviation industry, we have people who do the same thing. We have people pulling circuit breakers, so as to disable warning horns and that sort of thing. And we see this too often in accident investigation.

Another thing I would point out is, I think part of the reason that we have this is that the railroads do not do as good a job as they need to do of supervising their own people, and federal enforcement should not be asked to take the place of basic supervision by the railroads of their own personnel.

I believe that there have been trends in the rail industry to reduce the amount of supervision that they provide to their people, especially at off hours, in order to reduce the management overhead and the number of officers. And we've seen this documented very clearly on the Burlington Northern Railroad in connection with a couple of accident investigations and public hearings we held out there in alcohol and drug-related accidents.

Mr. McMillen. How do you compare, you know, getting on to the technology, how do you compare our state-of-the-art in advanced train control systems with the Japanese?

I understand the Japanese Bullet Train in ten years has had no fatalities. There are a lot of reasons at work there, including segregation of the passenger line. But how do you compare where they are to where we are at the present?

Mr. Burnett. Well, I don't think we have to go to Japan to look for the technology of automatic train control. We can look at the Washington Metro, although it hasn't always been implemented in the way we desire there.

I think the Safety Board does not work extensively with foreign surface transportation operations. We are deeply involved in transportation issues worldwide in aviation, so we are a little bit at a disadvantage at trying to draw those comparisons with the European and the Japanese systems.

Mr. McMillen. The last question I would ask, and I'd like to ask this of everyone: With the Administration's attempt to privatize Amtrak, what will that mean consequently for safety procedures, possible cutbacks in funding in this area? What is your opinion on that?

Mr. Burnett. Well, I don't know. I suppose that depends on whether the privatization is successful or unsuccessful. To the extent that Amtrak has capital to spend on safety issues, I know it has been sort of discouraging to the Safety Board in the last year or so, when it looked as though Amtrak might be, in fact, not be operating anywhere but the Northeast Corridor if certain proposals went through, discouraging to press Amtrak for doing all that we thought they ought to do when they were in that kind of precarious situation.

Why should you spend X billion dollars to retrofit for crashworthiness a lot of passenger cars that might not be in use two years hence?

So as long as they've been under that cloud, I think it's been hard for anyone to expect them to do the kind of major investments that we would really like to see.

Mr. McMillen. Thank you.

Mr. McCurdy. Thank you.

The gentlelady from Maryland, we certainly welcome you and will entertain any questions you have. And I also understand that you perhaps have a statement that you can either have directly entered into the record, or you can proceed as you wish.

Mrs. Bentley. Thank you, Mr. Chairman. I want to thank you and the vice chairman, Mr. Lewis, and my colleague from Maryland for allowing me the opportunity to participate today.

The accident did occur in my district, and I want to say this: I want to commend the staff of the Safety Board and the FRA and the others who were there on the scene over those very hectic days and who do a very excellent job in trying to find out what happened.

I will just include my statement in the record, and ask a couple of questions.

[The prepared opening statement of the Honorable Helen Bentley follows:]

MRS. HELEN DELICH BENTLEY'S OPENING STATEMENT

Mr. Chairman and members of the committee, I am grateful to have this opportunity to participate in this hearing to review our nation's rail safety technology and the recent Conrail-Amtrak accident of Chase, Maryland. This tragic accident is of particular interest to me because the Conrail-Amtrak accident occurred in my home district, the 2nd Congressional District of Maryland.

I was on the scene of the crash site as hundreds of rescue personnel worked to free the passengers of the wreck. Words cannot convey the horror.

I wish to commend the leadership of this subcommittee, Chairman McCurdy and Ranking Minority Member Mr. Lewis, for calling this hearing together. In the wake of the Amtrak incident, Congressional hearings such as this one are needed.

Recently, a task force of the Coalition of Northeastern Governors concluded that airports and highways are at the saturation point in the Northeast and that steps must be taken quickly to improve and expand rail service. The Northeast rail corridor which links Washington, D.C. to Boston will increasingly become more important for commuters. The Governors of these states are working together to bring about much needed improvements and extensions for the rail corridor. The states have already indicated their commitment and Congress must be in a position to provide assistance to this essential rail project.

The Governor's task force reported that highway construction is difficult to achieve and airports are largely at capacity. Washington and Philadelphia airports were considered congested in 1981. Airports in Baltimore, Boston and New York will reach this point by 1990. For these reasons, rail improvements are of the highest priority.

Our hearing today addresses the safety factors involved in providing rail service. Reviewing safety technologies should help prevent rail accidents from occurring in the future. Ensuring safe rail technology is as equally important as working to eliminate substance abuse among rail operators.

As a result of the Amtrak crash on January 4th, 16 people perished and 198 were injured after three Conrail locomotives ran a red signal causing the Amtrak commuter train, "The Colonial", to crash. The collision occurred at Gunpowder Interlocking, at the south end of the Gunpowder River bridge in Chase, Baltimore County, Maryland. On the Amtrak train were 617 people (605 passengers, 12 crew members), of whom 16 died (15 passengers, 1 crew) and 197 were injured. On the Conrail train, there was 1 crew injury.

The immediate result of this accident was the closing of the railroad between Baltimore and Philadelphia for 42 hours. Equipment damage was estimated at $10.8 million, which includes the loss of 2 AEM7 electric locomotives and 3 Amfleet 1 cars. Repair to track damage was valued at $815,000.

In this case, the Conrail engineer was reported to have a record of 8 speeding convictions and 2 license suspensions on the automobile driving record of the Conrail engineer. Soon after the accident, the Conrail engineer also tested positive for marijuana use.

It is clear that substance abuse played a major role in the causes of the Conrail-Amtrak accident. There is no room for drugs in the transportation workplace.

Human error cannot to completely eliminated nor is it the sole source of accidents. We must do everything in our power to work to ensure that our rail technologies are the safest possible. Commuter safety must be a high priority for the rail industry.

Soon after the Amtrak accident in Chase, Maryland, I met with the Director of the Federal Railroad Administration, Mr. John Riley and urged him to investigate several areas impacting the safe operations of rail traffic. We discussed the location of signals, the sabotage of locomotive safety equipment, the personnel practice of scheduling excessive hours on duty for railroad employees and possible solutions to the problems of drug usage by railroad employees.

Director Riley informed me that in a check of trains in the Northeast Corridor, six locomotive engines were found to have cab signal whistles taped over to muffle the safety warning even though the rail employees were told of the safety check of the engines twenty-four hours before it occurred.

Poorly placed signals along the rail lines were found within the Baltimore area. These signals were erected in recent years and yet, because of the physical obstructions along the railroad line, were not visible at a safe distance. Amtrak took the necessary steps to correct these problems.

In today's subcommittee hearing, it is my hope that together we may uncover existing problems that may contribute to unsafe rail conditions and move to correct these problems. Implementing safety employee regulations must also be accompanied by the utilization of the highest quality rail technology. By doing so, we may very well save hundreds of lives and millions of federal taxpayers' dollars.

As a member of Congress who has been actively involved in transportation issues and in particular our rail industry over the recent months, I am calling on Congress to ensure the following:

(1) Requirements that mandate licensing of train engineers and conductors of both Conrail and Amtrak. All driving records of rail employees should be made available to safety inspectors of Conrail and Amtrak.

(2) Enforcement of mandatory drug and alcohol testing of Conrail and Amtrak engineers and employees involved in passenger and public safety.

(3) Enforcement of regulations which requires Conrail and Amtrak management employees to be equally as responsible as hourly wage crews.

Chairman McCurdy and Mr. Lewis, I offer my support to you and the Subcommittee on Transportation, Aviation and Materials in working to ensure that our nation's rail lines have the proper safety technology to prevent tragic accidents from occurring. Proper use of sound technology can save lives. We are becoming more and more a mobile society and safe travel must be a priority for this historic 100th Congress.

Mrs. Bentley. In your recommendations, Mr. Burnett, have you gone into the business of overtired crews working some of these trains?

Mr. Burnett. Yes, we have looked at fatigue issues, and that is one of the reasons that we've created the Human Performance Division that we have, to look into issues of fatigue, alcohol and drug abuse, and those things.

It is very interesting that in a couple of accident investigations that we did in the West, both occurring on the Burlington Northern, that we found an issue of the involvement of those two issues together. In other words, if you've working shifts that make it difficult for you to get adequate rest, if you've working at night and trying to sleep in the daytime, there then becomes a motivation to use alcohol or drugs in order to go to sleep or to stay awake, and, in fact, there is some evidence that occupational groups that have that problem may be more involved in these problems.

So that has been among our concerns, and we do, of course, have federal regulation limiting hours of service. The organization of the rail industry, as far as their selection of job assignments, is such that it does not take into consideration the desirability of having a scientifically proven swing in shifts, rather than a sort of random or maybe very unhealthy selection processes that they have now.

This is an issue that needs, first, more research than it has. There are some scientists working in the area. But we also need to find out a way to begin to apply what we do know about fatigue in order to help the rail employees. But in order to do that, it's going to take some major changes in how they assign jobs, and I think there's resistance on both sides of the labor/management issue on that potential process.

Mrs. Bentley. I did meet with some of the labor unions and some of the engineers after the accident on several occasions to discuss what some of the problems were, and the matter of fatigue and the hours of notice that they were given, that was one of the consistent complaints, that they are not given enough time to rest between. So I think that really needs probing.

Mr. Burnett. I would say that I don't think that either labor or management has entirely clean hands in that regard. They both help to produce the problems that they have.

Mrs. BENTLEY. Also, have you gone into the location of the signals? I am told by the engineers that there are at least three locations right in the Baltimore area, and one of these is near the Chase site, where the signals are located in obscure areas, that engineers almost have to be right upon them before they can see them.

Mr. BURNETT. Mr. Zielinski?

Mr. ZIELINSKI. We are looking into that very much, as a matter of fact. We have had people out there taking site distance tests right at the accident site and in other locations along there, and that is one of the areas that we are paying very close attention to, not only that, but the signal spacings and the overall layout.

Mrs. BENTLEY. I have some photographs, incidentally, of some of these, if you would like to have them.

Now piggybacking on questions that were asked both by the chairman and Mr. McMillen, on the devices, the ATC and the safety devices that have been installed in some and are being considered—and again, if the human hand who is operating the engine can make these inoperable, what do we do about it?

Mr. BURNETT. Well, that is a—I think we have to emphasize that the alerting devices, whistles, we've had problems with making them inoperable. I don't think that we've ever observed that with the automatic train control.

Mrs. BENTLEY. Well, I am told by engineers that they do do this. This is done with the automatic——

Mr. BURNETT. I don't doubt that someone can figure out a way to do it. That was the next point I was going to make. But we haven't seen it at this point, and I think it would be a more difficult thing to do.

So I think that's one of the things that we have to consider: Are there ways to rig it? If somebody has a motive for doing that, if they want intentionally—if they, for some error on their part, want to run through—want to run through a signal and risk a collision and are willing to disable an automatic train control device in order to do that, then it strikes me that the best way to deal with that is, again we have to go back to the human performance problem. Why would someone want so bad to avoid a safety device, and if there's a motive for doing it, it's because they don't want to be caught when the train is involuntarily brought to a stop.

Mrs. BENTLEY. I'm told it's actually just a matter of the having the control rather than another device out there having the control.

Mr. BURNETT. Well, I think that's true as to the alertor devices, because it requires them to maintain a level of vigilance that they probably would not otherwise have to maintain and still could normally operate the track.

I can't imagine that that would be true ordinarily with the automatic train control, but——

Mr. ZIELINSKI. I think maybe there's a possibility that some of the engineers that you have talked to are consciously defeating the alerting portions of the automatic train or signal control and thinking they have eliminated the provisions of the entire system.

Mrs. **Bentley**. One other question: Is there a problem of the freight and passenger trains going on the same tracks? How much of a problem is it?

Mr. **Burnett**. Well, ideally, Congresswoman, I think we would—ideally, if we could have it in this country like they have in places in Europe, to have completely separated systems, that would be nice. So to say that it's not a problem, it is a problem that has to be met and dealt with.

I don't think—the Safety Board has never taken a position, nor do I think we're likely to do so, that even on the Northeast Corridor, that all freight traffic needs to be removed, because it's essential for freight service to some points that are now receiving that, and I don't think we'd want to advocate—there are other ways of having safe operations without advocating the cutting off of railroad service to important elements of our nation's economy.

So I think we can do some other things, and I think the recommendations that we have made, again to Amtrak, in response to the Chase accident, even in the short term where we've asked them, "Just have all of those trains stop anyway, no matter what the signal is, and get permission before they move onto the main track until you can equip them with automatic train control," it's going to be a delaying factor, slow down rail operations, but it will ensure, in our view, absolute safety in the meantime. I'm sure it would be more desirable to have automatic train control in the long run—do that, but continue to let the freight trains operate on the corridor.

Mrs. **Bentley**. Do you see any safety factor, any endangering of safety, with the tracks being used by the heavy trains, the heavy freight trains, which are slow and lumbering, for these fast—the 125-mile passenger trains?

Mr. **Burnett**. I think as long as they have a good, adequate inspection program—Mr. Zielinski might want to define it for you——

Mr. **Zielinski**. It's based more on an economic issue with the heavier freight trains degrading the quality of the track, which would in turn mandate a reduction in the speed on the passenger trains, so it would be an expenditure of more monies to maintain that track to the passenger speed levels when you have freight trains on there.

It's not a direct safety issue. It can become a safety issue, if the inspections and the levels of maintenance drop off.

Mr. **Burnett**. If you have a good inspection program, you can identify the problem, put a speed limitation on the train so that it can be operated safely on the quality of track you have, and until you can get the adequate maintenance done. So that's done everyday in rail operations. It's just a matter of whether or not the freight trains are holding up their end of the economic bargain and that Amtrak, which maintains the track, is doing its end as far as maintenance and inspection.

Mrs. **Bentley**. Now we know about the economic problems, because we tried for a long time in Baltimore to get new tunnels built and the Baltimore and Pittsburgh tunnels replaced, and we were told at least ten years ago that's that over a billion dollars then, so it would be really impossible today.

Thank you. Thank you, Mr. Chairman.

Mr. McCURDY. Thank you.

Mr. Burnett, in the interest of time and the other witnesses, we're going to go ahead and move to the next witnesses, but I would appreciate it if, at all possible, if you can remain available at least through the next couple of witnesses in case there are questions that arise from their testimony, if that's at all possible.

Mr. BURNETT. We will try to accommodate you.

Mr. McCURDY. Right. Thank you, Mr. Loeb and Mr. Zielinski.

Our next witness is Mr. Graham Claytor, President of the National Railroad Passenger Corporation (Amtrak). It's good to see you again, Mr. Claytor.

I would like to make it clear to Mr. Claytor that those of us in Oklahoma are concerned about rail safety, even though we don't have Amtrak service in Oklahoma.

Mr. CLAYTOR. Well, if we could just get a little more capital money, we'd get you the service.

Mr. McCURDY. We might get there, okay. We'll look at that.

Seriously though, Mr. Claytor, we certainly welcome you and know that this has been a very difficult experience for those of you at Amtrak, and we appreciate your willingness to come and testify today.

STATEMENT OF W. GRAHAM CLAYTOR, JR., PRESIDENT, NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK), ACCOMPANIED BY HENRY MOORE, EXECUTIVE VICE PRESIDENT AND CHIEF OPERATING OFFICER; AND DENNIS SULLIVAN, VICE PRESIDENT, OPERATIONS AND MAINTENANCE

Mr. CLAYTOR. Thank you, Mr. Chairman.

First, I would like to introduce on my left Mr. Henry Moore, our Executive Vice President and Chief Operating Officer, and on my right, Mr. Dennis Sullivan, Vice President, Operations and Maintenance.

I greatly appreciate this opportunity to appear before this distinguished subcommittee to discuss rail passenger service and safety and especially how technology can improve that safety. We want to eliminate, to the maximum extent possible, the likelihood of tragic accidents as that which occurred at Chase, Maryland on January 4.

I spite of this accident, I am satisfied that rail passenger service is one of the safest forms of transportation, statistically and otherwise, but I won't take the time to expand on this at this time.

Instead, I want to concentrate on how we can make rail passenger service even safer than it now is.

Now the chairman has summarized the principal shortcomings of the Conrail engine and crew that led to the tragic accident, so I will leave the details on this as stated in my prepared statement, which I assume will be included in the record.

Mr. McCURDY. It will be included in the record in its entirety.

Mr. CLAYTOR. The most important thing now is, what effective means is available to prevent this sort of thing from happening in the future? And I am going to take this up in a series of items, if I may.

First, what has been called automatic train control, what we on Amtrak call automatic speed control. One has to remember that there are a number of different types of automatic train control, and the terminology is very confusing. The traditional automatic train control has been a device which, when a signal was passed, a buzzer or sound would sound. The engineer was then required to acknowledge that by pressing a button. If he didn't do that, the train would be stopped automatically, but if he pressed the button, he had control, and that's all that happened. He could then keep on going or not as he chose.

On our system, which is a more modern system and the one we think we've got to have on the Corridor of automatic speed control, when the train passes into a more restrictive signal aspect, a buzzer sounds. The engineer has between four and six seconds to put on the brakes in a certain position that's there. If he doesn't do that in four to six seconds, the train is stopped automatically.

If he does do that, he has got to hold the speed to the amount restricted by the signal. If he ever lets it get above that while he's in that signal block, the train will stop again.

Mr. McCurdy. Could I interrupt you there and just ask, generally on the Corridor, on your high-speed trains, what would be the average speed? Is there an average that is consistent through there, and how long does it take to stop and what kinds of distances?

Mr. Claytor. Well, our maximum speed is 125 miles an hour. Obviously there are areas in which the speed is less because of curves or other things. But we always operate on the basis of the maximum speed, and we can stop the—let's pass a signal. The signal is an approach signal, the first one you come to. That signal says, "Be prepared to stop at the next signal," which is down the line about two miles or so or more.

When you pass an approach signal, the alarm goes off. The engineer puts his brakes in a position, and it puts the brake on, the air brake on in a position that responds. As long as the brake is on and the engine is slowing down, the device is satisfied. When the speed gets down to 30 miles an hour, which is what you've got to do for an approach signal to stop at the signal expected, then the engineer may then do anything he wants to, but he mustn't exceed 30 miles an hour. If he does, it will be stopped again.

That is a positive operation. It doesn't just tell him he's got to do something; he's got to actually do it, or it's not satisfied.

Now that speed control system is on 100 percent of Amtrak's passenger locomotives on the Northeast Corridor. It is being installed on all of our work train locomotives.

Mr. McCurdy. Could I ask you at that point, is that something that is easily retrofitted or installed? Is it a major operation?

Mr. Claytor. No. Well, it's about $25,000 a unit to put it on. And the way railroad costs go, that is not as high as it would sound to a layman. It's a reasonable figure.

But we think that should be required on all locomotives and self-propelled cars that operate on the main line of the Northeast Corridor between Washington and Boston.

Now the National Transportation Safety Board has said that Amtrak should be required to do this. Well, we are required—we have the right to insist on reasonable safety requirements by other people who use our railroad, but that is a somewhat flexible term. If we had to rely on our own ability to get the commuter agencies and the freight railroads to do this, I think it would be a long time coming.

It is perfectly obvious that if I tell New Jersey Transit, "I want you to have all of your equipment, have them equipped by a certain date," and then they don't do it, I can see what happens. If I tell them, "Well, we're going to stop your commuter trains into New York on that date," there would be an injunction the next morning.

We are not a regulatory agency, so we ask that the FRA impose a requirement on the Northeast Corridor that by a reasonable date, that all equipment be fitted, all locomotives be fitted with the automatic speed control equipment. And I think that's the first step, but we need this done by law or by regulation. We will tell everybody that we're going to require it, but we don't have the enforcement power to the extent that the government does.

Now there is another thing we have on the Northeast Corridor which should be understood. We already have cab signals—that is, the signals that are—wayside signals are replicated substantially inside the cab in front of the engineer. That is a very important factor. It means that the signals are available to him in all kinds of weather, visibility, or anything else, and they are also more flexible, since if a signal changes while you're in the middle of the block, you may not be in sight of a signal outside, but the cab signal will change if that happens, so it's more instantaneous.

This is an expensive operation. It's already installed throughout the entire Northeast Corridor. It's installed in a few other places in the country, but not many. The automatic speed control device that I've just described depends on cab signals. It operates from the cab signal system. So if you've got the cab signal system in effect, as we do, adding the automatic speed control is not all that expensive.

If you try to put it in a place where there are no cab signals, you'd have to install the cab signals, too, and that is incredibly expensive. So that is why other electronic means, such as satellite communications and that type of thing, are being studied for the use of this device elsewhere. That is still in the study phase, and we are participating with the Association of American Railroads in that study. But on the Corridor, we already have it, and so there's no real problem.

Now we also have allertors, modern allertors. The tradition form of allertor is a pedal on the floor that the engineer has to keep his foot on. That is the easiest possible thing to defeat. If you're tired of having your foot on the pedal, the traditional system is, take a brakeshoe and put it on the pedal and hold it down, so you can move your foot around, which completely nullifies the safety feature.

Our allertor is an electronic device. We've done away with the whistle, which is so easy to tape up. It's an electronic sounder, pretty hard to defeat by itself. When the allertor is satisfied, only by movement of the body in some cases or by moving his hand—he puts his hand off the controls, puts his hand on a piece of metal, or just moves—that satisfies it. He must do that every 24 seconds. If he doesn't make a move of some kind within 24 seconds, a light flashes and a buzzer sounds. If he doesn't respond to that, a siren goes off, and then if he doesn't respond to that, the train stops.

It is a very good system, and it's not burdensome, in the sense of the type that require you every 20 seconds to press a button. That is really burdensome. I mean, doing this for four hours is hard. But all he's got to do is move, blow the whistle, move the brake, touch the throttle, put his hands on the desk like that, almost anything, any movement, but you've got to move within 24 seconds or the sequence will start, and if you don't respond to it, the train will stop.

That is why we think it is absolutely safe on the Northeast Corridor to operate locomotives with one engineer. We have a system in effect, a procedure that says, if the alertor fails for any reason—and things do go wrong sometimes—if it's disconnected or if it fails, the engineer stops his train, gets a trainman, a qualified trainman from up in the train, up in the engine with him, and then they call signals to each other as required by the rule until they get to the end of the line, and his speed is limited to 79 miles an hour.

It doesn't happen very often, but that is the backup procedure we use.

Now I want to mention, too, something else. What about this tampering? It's a very serious thing. People tamper with whistles or safety devices because they find them bothersome, I assume. No one really knows; different motivations in different people. But certainly some of them are a nuisance. It's a nuisance to keep your foot on a pedal. It's a nuisance to listen to a nasty whistle go off that you don't want to keep hearing.

What we have done, we have gotten rid of the whistle with an electronic sounder. But we have done some other things. All of these devices have to be able to be cut off. If they malfunction, the train will stop, and you can't move it. You can't cut the device off if there's a malfunction.

There used to be—there are two switches on the engine. There was one switch right in front of the engineer that he could just flip, and that would cut the whole cab signal system off and turn off the automatic train control, too. You had to have that, because sometimes our trains or engines are required to run over a piece of track that has no cab signals in them. If you don't turn the thing off, when it hits the no cab signals, it will stop the train.

So what we've done with that switch, that was a bad thing. We had that, and it was perfectly plain that an engineer who was bored with the cab signal system could just turn it off, and then turn it on again before he got to the end of the line, and no one knows the difference.

We have rigged that switch, so that it can't be turned off if the cab signal system in the track is on. If you are going to leave a cab signal system, you turn the cab signals off. If you then forget to turn it back on when you come back in to the cab signal system, the switch is nullified, and the thing works. So you can't defeat it that way. That's the kind of thing you have to do with these.

Now there are other switches. Both the cab signals, the allertor, and the automatic train control have switches back in the body of the engine, which is sealed, and they can be turned off, and they'd have to be turned off if along the trip something malfunctioned, and he couldn't get the engine going if he didn't turn it off. But if he does that, as I say, if he turns the cab signal system off, he's limited to 79 miles an hour, and he must report to this dispatcher. If he has to turn the automatic speed control off, a little separate switch there, it's sealed, if he turns that one off, he still has automatic train stop, meaning that the train will stop—it's the same as the earlier automatic train stop. We, then—if he has to turn that off, we limit him to 100 miles an hour, but he still has automatic train stop.

If he has to turn the automatic train stop off too, then he's back to 79 miles an hour and has to limit it.

And we will find out if he turns any of these things off, because we have new seals, big seals like this, that have a serial number on them, and when that seal is broken, there's no way to phony it up and pretend it wasn't. And that's inspected at the end of the run. He has to report it to the dispatcher by radio when he does it. If he gets to the end of the run and the seal is broken, he's in bad trouble, and we will enforce that.

So there are ways and means to stop this tampering, and we do the best we can.

Now there was a reference that Mr. McMillen made to, the FRA found several Amtrak locomotives that had been tampered with.

Not on the Northeast Corridor. The two or three engines they found were on our contract railroads and were being operated by railroad crews, not Amtrak crews. We are in the process of taking over the train and engine crews all over the country, but we haven't covered it all yet. And the ones that were found tampered with were on contract railroads operated by their own crews, over whom we have no control.

We're going to fix that as soon as we take them over. We will follow the same procedure as we do.

We'll goof once in awhile; everybody does. But I think we've done everything that I can think of to cover those things as best we possibly can.

The tampering thing is serious, and I join with the FRA in saying that they should have the authority to penalize individuals who tamper, as well as companies, which will help some.

Now separating passenger and freight traffic. On this one, I go beyond what the NTSB has said. I think we should. We need to separate it in either time or space. It is impossible to remove all freight service from the Northeast Corridor. Many industries can be reached by rail only on our Northeast Corridor tracks, all the way up and down, automobile plants, big ones, little ones, and others. However, there are several things you can do, and a great deal has already been done, more than most people realize.

In the first place, the through freight trains, the long through freight trains, can, for the most part, be moved to parallel tracks—the Baltimore & Ohio Railroad between Philadelphia and Baltimore/Washington and Conrail's own other lines north of Philadelphia—and a lot of that has already been done, and more is being done every day. The fact that we raised the price for Conrail to run their freight trains on Amtrak last year, with Congressional help, has given a lot of motivation to Conrail to move these freight trains over.

Now there are some, the local freight that picks up and delivers from industries, cannot be moved off. There are a few short segments of long-distance freight trains that can't be moved off as a practical matter.

But we can do two things with that. What we want to do is put practically all of that business—have all of that operated between 10:00 p.m. and 6:00 a.m., when we have very few high-speed, long-distance passenger trains operation. And we will try to arrange the dispatching so as to avoid having these trains operate on the same tracks that pass each other, and that we can work out.

We have already, as an interim measure, we've done more than the NTSB recommended. What we have done as of a week ago, we imposed a 30-mile-an-hour speed limit on all freight trains operated on the main line Northeast Corridor that we have from Washington to Boston between the hours of 6:00 a.m. and 10:00 p.m., that is the daytime hours. If you run the train in the daytime, you can't run it over 30 miles an hour. I think that is a significant change and adds significantly to the safety.

The NTSB had suggested that we make all trains stop and get permission to pass a signal before moving from one track to another. That just wouldn't work.

The first problem with it is that it wouldn't do any good. If an engineer is going to pass a red signal and run out on the track, he's not going to pay any attention to a rule that says, "You ought to stop and ask permission before you pass the red signal." I mean, it would tie the railroad up, particularly up in the North where we have hundreds of commuter trains a day, who are doing this all the time. The commuters would never get to New York with a rule like that. And my main objection is, I don't think it would do us any good.

But stopping all the freight trains, which my fear is, that's the real problem. Stopping all the freight trains, holding them to 30 miles an hour, will do two things. If they do run in the daytime, it will make it much safer, and there will be a tremendous motivation not to run them in the daytime, but to run them at night when they can do it faster, as well as still more motivation to get off the railroad altogether.

And we're working on that. We're working closely with Conrail and the other freight people to do that.

Now it was mentioned in the other hearing, the licensing of engineers. We think that there ought to be federal standards for engineers, minimum standards for engineers, that are uniform throughout the country, but that the actual qualification and licensing should be done by the individual railroads under FRA oversight.

Each railroad has got to have its own rules, over and above the national rules. An engineer is not qualified like a driver. If you get a driver's license, you can run an automobile on any public road in the country. If you get an engineer's license, you can only operate over the line on which you are specifically qualified, and you have to be requalified to run over any other piece of railroad. The railroads have got to supervise that.

But I think there ought to be federal minimum standards that are applied to everybody. And we also need more information than we have available on off-the-job problems, such as driving while drunk and convictions of crime and that type of thing, which the FRA could gather and pass along to the licensing authority with the ability to use it.

Passenger car safety improvements. The first thing I want to say is, the most serious thing is the seats coming loose in an accident. Now I think we've just about done everything on the seats coming loose that you can do.

In the Chase accident, there were only ten seats out of 686 that came loose, one and some percent, with the most severe accident you can almost conceive of happening. That, I thought, was about as good as we're going to do with that one.

The seats do, however, have catches in them, so that they are sometimes permitted to swing. You have to turn them around when the car changes direction. Those catches are not adequate, and we've had the devil's own time getting those fixed, and we're still working on it, but we will fix it. The manufacturer of the seats went out of business. We let a contract to make some new catches. The contractor tried it for awhile and didn't do a good job, and we cancelled that contract. We're working on it. We can fix that. It's not as serious as the seats coming loose.

The upholstery coming loose is another problem. We know how to fix that, and we're getting forward with that.

We have also got about half the dining and food service cars with the microwave ovens affixed, so they can't come loose. But the other half, we haven't finished yet. It's purely a matter of how fast we can afford to do this. But that's under control.

Baggage and luggage is the toughest problem. We can and will put baffles, so that the luggage can't slide, which is one of the things that's happened. To keep it in from falling out, you've got to do this in a way that enables people to put it up there. We have tried—we've got an experimental car fixed with flexible rope that goes in front that we're trying out to see if that will work. We have one or two other ideas; we're going to try those out.

This is a thing that takes ingenuity rather than high tech, because you've got to meet two conflicting problems. You want the luggage to stay there under most circumstances, but you also have got to have it so that little old ladies, who are not very tall, can get it up and get it down. And this is very difficult to do. You've got to meet both requirements, and so we've going to try to find a compromise between the two. We've been working on this for some time. We've got one or two cars fitted that we are trying out. And I can assure you, we're going to stay with it.

Well, that's about the summary of the issues, as we seen them, and I'll be glad to try to answer any questions, Mr. Chairman.

[The prepared statement of Mr. W. Claytor follows:]

TESTIMONY

OF

W. GRAHAM CLAYTOR, JR.

PRESIDENT AND CHAIRMAN OF THE BOARD

NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

BEFORE THE HOUSE COMMITTEE ON SCIENCE AND SPACE TECHNOLOGY

SUBCOMMITTEE ON TRANSPORTATION, AVIATION AND MATERIALS

WEDNESDAY, FEBRUARY 25, 1987

Good morning Mr. Chairman:

I greatly appreciate this opportunity to appear before the Subcommittee on Transportation, Aviation and Materials of the House Committee on Science and Space Technology. I will discuss rail passenger safety and especially how available technology can improve that safety. We want to eliminate, to the maximum possible extent, the likelihood of such tragic accidents as that which occurred at Chase, Maryland on January 4, 1987.

In the aftermath of any major transportation accident such as this, questions as to the safety of that mode of transportation are necessarily raised. First of all, I want to emphasize that travel by Amtrak passenger train today is extremely safe. The National Safety Council's "Accident Facts - 1986 Edition" contains some useful comparative data on various modes of transportation for 1985, the latest year for which data are available:

Motor Vehicle Accident Deaths - 45,600

Water Transport Accident Deaths - 900

Air Transport Accident Deaths - 1,300 (includes private and military flights)

Railroads - 500 (includes trespassers; only 3 of 500 were passengers; only 1 passenger was Amtrak)

Other Transport - 200

In comparison with automobile travel, all modes of public transportation have very low fatality rates. In 1985, in fact, Amtrak had no passenger fatalities as a result of derailments; the one passenger fatality we had in 1985 was a person who apparently jumped or fell from a moving train.

As extreme as the January 4, 1987, derailment was, we must also look at the survivability of the vehicles. There were 16 deaths among the 618 people on that train on January 4, 1987. Had the accident involved planes rather than trains, the death toll undoubtedly would have been far higher, and it most likely would have killed all passengers, crew, and possibly additional people on the ground. The survivability of train vehicles involved in a derailment today is a testament to the good work that has been done in recent years improving the quality of vehicle design, signal systems, train couplers, etc. With what has already been learned from this accident, additional steps are being taken to further enhance rail travel safety, including improvements in seat restraints, luggage restraints, food service car equipment restraints, and train movement controls.

However safe rail passenger transportation is, we can and should adopt any reasonably available measures we can to eliminate such risks of collision or derailment as still exist. The recent accident involving three Conrail freight locomotives and an Amtrak train does highlight some additional safety measures that I believe can and should be implemented. In order to lay a foundation for analysis of these proposed improvements in rail safety, especially on the Northeast Corridor, I think we should examine in some detail what went wrong on January 4th.

I. Conrail-Amtrak Accident

On Sunday January 4, 1987, three Conrail diesel freight engines coupled together without any cars behind them were being moved from Conrail's Bayview Yard to Harrisburg. This included a movement over Amtrak's NEC main line from the terminal just north of Baltimore to Perry Interlocking, across the Susquehanna River from Havre de Grace, Maryland for a distance of 29.8 miles. When running over Amtrak tracks, Conrail crews are required to comply with Amtrak's operating rules.

The Conrail crew consisted of an engineer and brakeman, both of whom were in the cab of the leading locomotive. Under both Amtrak's and Conrail's rules, the movement was under the control and responsibility of the engineer.

Conrail locomotives operating over Amtrak's lines are required to be and are equipped with "cab signals" -- that is, signals displayed in front of the engineer inside the locomotive cab that are comparable to the wayside signals. These locomotives are also equipped with a warning whistle, called an "audible indicator," that sounds whenever the applicable wayside or cab signal changes to a more restrictive indication of any sort. Amtrak Rule 550 requires that both of these devices must be tested before the engine leaves its terminal. If either device is not working properly, the engineer must not enter "cab signal territory." All of the NEC main line between Washington and Boston is cab signal territory, with the exception of a short section East of Providence where it is currently being installed.

The Conrail engineer and brakeman claimed that, in the absence of mechanical people, they had performed the required tests themselves. In fact, however, neither device on the leading locomotive was working. The light bulb was missing in a most critical aspect of the cab signal indicator, and someone had taped over the warning whistle so that it could not be heard when the engine was running. Leaving the terminal at all without a proper test of these devices or with knowledge that the devices were not working, was a violation of both Amtrak and Conrail operating rules. This was the first of several independent and serious rule violations leading to the accident.

The engines were proceeding north on track #1 of Amtrak's four-track main line. At Gunpow Interlocking, these tracks are reduced to two in order to cross an estuary of the Chesapeake Bay, and at this point track #1 terminates through a switch into track #2. (See track diagram, Attachment 1). At the time of the accident and for several hours prior to that, this switch was set to handle high-speed through traffic on track #2, and, accordingly, it was set against entry on this track from track #1. A wayside "home" signal 349 feet south of this switch controls northbound traffic on track #1, and this home signal was set at "Stop." Another wayside "distant" signal 1.95 miles further south on track #1 registered "Approach," an aspect that instructs trains to: "Proceed prepared to stop at next signal. Train exceeding medium speed (30MPH) must at once reduce to that speed." (Signal Rule 285, Amtrak Operating Rules). After the accident, all of these signals were checked and tested by Amtrak and FRA as part of the National Transportation Safety Board (NTSB) inspection, and all were found to be working properly. The subsequent statement of the Conrail engineer to the effect that both the distant signal and the cab signals indicated an "Approach Limited" aspect are not credible under the circumstances. If an "Approach Limited: aspect had been displayed, it would have indicated that the route was clear to turn into the adjacent track #2 after the next signal at a speed of no more than 40MPH.

When the Conrail engines passed this "distant" signal, they were running at or slightly above the maximum speed permitted for this class of locomotives coupled together, 60MPH. In spite of their later statements, the engineer and brakeman either did not observe this signal, which certainly indicated "Approach," or they disregarded it and continued at the same speed in violation of Signal Rule 285. Tests subsequent to the accident under similar weather conditions indicated that the signal was visible to the engineer some 1,278 feet and to the brakeman's nonoperating side of the cab some 2,118 feet before it was reached. The brakeman stated that he did not observe this wayside signal at all, even though he claims to have seen and reported a comparable aspect on cab the signal. In any event, when passing this signal, they violated another rule, Rule 34, which requires them to communicate to each other the indication or aspect of each applicable signal they pass. These were the second and third rule violations leading up to the accident.

On passing this signal, the warning whistle in the cab should have sounded, and the cab signal should have changed from the previous "Clear" aspect to "Approach." Since both the warning whistle and the "Approach" aspect of the cab signals had been neutralized, one by the taping up of the whistle and the other by the missing light bulb, neither was activated. What obviously did happen, however, was that the cab signals "went dark": the light behind the previous "Clear" aspect when out, and no other aspect appeared because the light bulb was missing from the "Approach" aspect which otherwise would have been lighted.

Under Amtrak Rule 551(g)(4), this constituted a failure of the cab signal apparatus, and under Rule 554, this occurrence alone would have required the engineer to reduce speed to no more than 40MPH and to notify the dispatcher or operator by radio. The fourth successive rule violation occurred when neither of these actions were taken, and the engines continued at or above 60MPH.

At a point 4,000 feet before the above mentioned "Stop" signal was reached, the locomotive passed a further safety device in the track that actuated the most restrictive of the cab signals, an aspect called "Restricting." Later tests proved that this aspect of the locomotive's cab signals was working properly. This also would have actuated the warning whistle if it had not been neutralized by tape. Under Rule 551(c), when a "Restricting" signal appears on the cab signals, "the Engineer must take action at once to reduce train to Restricted Speed," which for this location is defined as "not to exceed 20MPH." Again, the engineer subsequently stated that, prior to reaching the next or "home" wayside signal, his cab signals were all dark. In fact, as noted above, they were undoubtedly dark from the time he passed the distant signal until the "Restricting" cab signal appeared. In any event, the fifth successive rule violation occurred when both members of the crew also failed to respond to this critical "Restricting" signal.

Finally, tests which were made with similar engines after the accident indicated that, under weather conditions like those on January 4th, the wayside "Stop" signal could be seen and recognized at a distance of 5,178 feet, more than twice the distance required to stop with normal brake application and without applying the brakes in emergency, even at the 60+ MPH speed the engines were running. This was the crew's last clear chance. They failed to act, in violation of "Stop" Signal Rule

292, until they were so close to the "Stop" signal and switch that, in spite of a last-minute emergency brake application, the engine slid past the signal and through the switch directly into the path of our "Colonial," northbound Train #94. This sixth rule violation finally made the disastrous collision unavoidable.

This combination of six successive violations of operating rules, compliance with any one of which would have prevented the accident, can possibly be explained by drug test results showing marijuana constituents in the systems of both men in the Conrail engine crew.

While the National Transportation Safety Board usually does not make definitive findings on the cause of rail disasters until many months after the start of its investigation, we are satisfied that in this case there is overwhelming evidence that the sole cause of the accident at Gunpow Interlocking was the combination of the condition of the Conrail locomotives and the outrageous conduct of the Conrail crew who violated not one but a whole series of important operating rules, each of which was designed to prevent just this sort of thing from happening.

I would like to turn to the more important questions of what technology is available to help us prevent this sort of accident in the future. As already noted, the system now in effect would have effectively prevented the accident in spite of any two or three serious human errors, but it was overwhelmed by an almost incredible series of successive rule violations involving Conrail equipment as well as both members of the Conrail engine crew.

II. Automatic Train Control

Installing automatic speed control (also known as "automatic train control" and sometimes referred to hereafter as "ATC") on all freight and commuter equipment operating on the Northeast Corridor would be the most effective step we could take to avoid a repetition of this type of accident. All Amtrak passenger locomotives and self-propelled cars operating on the NEC are currently equipped with ATC, which, when activated, will bring the train to a stop. Had this system been in effect on the Conrail locomotive, the January 4th accident would have been prevented in spite of the chain of human error and series of rule violations committed by the Conrail engine crew.

There are currently in use on various railroads a number of train control devices, with no universally accepted terminology. The least effective is the warning whistle device that was installed on these Conrail freight locomotives; when the applicable signal changes to a more restrictive aspect, the whistle sounds and continues to sound until the engineer acknowledges it by some action such as pressing a button. Thereafter, it is up to the engineer to adjust the speed manually, to stop, or continue as before.

The Automatic Stop System is similar, except that if the engineer does not acknowledge the warning device within a short time, the locomotive is automatically brought to a stop. This is an important additional safety feature. Again, however, if the engineer does acknowledge the warning, the train continues at the same speed until he manually slows or stops it.

Finally, the ATC system will automatically apply the brakes and bring the train to a stop unless the engineer affirmatively takes action within a short time (on Amtrak, about 6 to 8 seconds) to bring the train's speed down to or below the limit called for by the signal indication. It is with this device that all Amtrak passenger engines operating on the NEC are equipped.

As already noted, had this device been in place on the Conrail engines, it effectively would have prevented this accident in spite of the engine crew's errors. The first and most obvious preventive action I would recommend, therefore, would be requiring all freight and commuter equipment operating on the Northeast Corridor to be equipped with ATC. I am pleased that the NTSB is also recommending this.

Amtrak management has already taken the first step toward ensuring that all trains operating on the NEC are so equipped by ordering acquisition and installation of these devices on all of Amtrak's work train locomotives -- the only Amtrak road engines assigned to the NEC that are not now so equipped. Pending the completed installation of these devices, Amtrak work equipment will be limited to 30MPH. We are also issuing instructions that our terminal switch engines without such equipment are not to be operated outside their terminals except on those very rare occasions when they may be required to rescue a disabled train. Even then, they may not be so used unless in the charge of a qualified supervisor and with notice to the dispatcher.

When we look at the other trains being operated on the NEC, however, the situation becomes quite complex. Between New York and Washington, our lines are used by Conrail and Delaware & Hudson Railroad for freight, and by New Jersey Transit, SEPTA and MARC (Maryland DOT) commuter trains. All MARC locomotives on NEC are equipped with ATC; some NJT equipment has ATC and the rest has only automatic stop; SEPTA equipment has only automatic stop. Conrail and D&H freight locomotives here similarly do not have ATC or stop equipment, but only the type of whistle warning described above.

East of New York, Conrail operates a relatively small amount of freight on portions of our line between Penn Station and approximately the New York-Connecticut State line. From that point to New Haven, Connecticut, the railroad is under long-term lease from Penn Central to the Connecticut Department of Transportation and operated by the Metro-North Commuter Railroad Company, the operating arm of New York's Metropolitan Transit Authority (MTA). I understand that Metro-North commuter trains and, of course, Amtrak passenger trains have Automatic Speed Control, but that the relatively few Conrail freight locomotives that operate on this line are equipped with automatic stop but not with ATC.

Moving further east, Amtrak owns the main line from New Haven to the Rhode Island-Massachusetts State line, over which only Amtrak, a modest amount of Conrail freight (west of Old Saybrook, CT), and the Providence & Worcester Railroad (east of Old Saybrook, CT) now operate. Conrail and P&W engines there have automatic stop nor ATC.

From the Rhode Island-Massachusetts State line to Boston, the line is owned by Massachusetts Bay Transportation Authority (MBTA). These tracks are used by Amtrak's trains, by MBTA commuter trains now operated by Amtrak under contract, and by Conrail freight trains. Amtrak and MBTA trains are equipped with ATC equipment. Conrail's freight engines have neither automatic stop nor ATC.

Amtrak claims the right to impose reasonable requirements such as the use of Automatic Speed Control devices on freight and commuter trains operating over our own lines, but this has been and could be contested by at least some of those operators. We have, of course, no such rights with respect to those portions of the NEC not owned or operated by Amtrak. As a result, a statutory or federal regulatory requirement is probably the only practical way to accomplish this objective within a reasonable time.

III. Cab Signals and Alertor

All of the Northeast Corridor main line between Boston and Washington is equipped for use of "cab signals" except for a short segment east of Providence, Rhode Island where this is now being installed. As noted heretofore, all locomotives operating on NEC are required to be and are equipped with these devices, which display in front of the engineer inside the locomotive signal indications that are comparable to those displayed on wayside signals along or above the track. The cab signal system is used to activate the Automatic Train Control system discussed above, and is an important safety feature for high-speed operations, since positive signal indications are plainly seen by the engineer regardless of visibility or weather conditions.

The alertors as required and installed on all Amtrak passenger locomotives are also critically important safety devices. These alertors are sophisticated electronic devices designed to monitor the engineer's attention when the air brakes are in the released position. In most of our engines, the engineer's seat is equipped with a sensor that uses body capacitance to identify movement by the engineer touching various surfaces; in others, the engineer must touch or move one of the controls or a metal surface. In either case, if the required movement is not made within a prescribed time period of 24 seconds, a flashing light will alert the engineman. If the engineman does not acknowledge the flashing light within about

12 seconds, a siren will sound for 8 seconds. If a reset is not then initiated, a penalty brake application is applied, and the train is brought to a stop. These devices effectively eliminate the obvious risks resulting from an engineer's becoming disabled, falling asleep, or just "goofing off."

IV. Means to Prevent Deliberate Disabling of Safety Devices

The warning whistle in the cab of the Conrail freight engine involved in the Chase, Maryland, accident had been deliberately disabled by wrapping it with tape and thus effectively eliminating it as a warning device. Subsequent inspections by FRA found a number of other instances of this practice on Conrail and other locomotives throughout the country. In place of the alertor described above, many locomotives have only a "dead-man's pedal" -- a device which the engineer must hold down with his foot whenever the engine is operating; if he removes his foot, the train is automatically brought to a stop. It is this device which is most frequently (and very easily) defeated by placing a heavy object on the pedal to keep it down all the time.

Elimination of this practice of tampering with safety devices will always require vigilant supervision, but this alone is not enough. Available technology should be used to make these devices so difficult or so risky to disable that it will rarely if ever be attempted. Amtrak has taken a number of steps to accomplish this, and although we have had no known instances of tampering with safety devices on the Northeast Corridor in recent years, we are constantly seeking additional devices, practices, and procedures to make this even less likely.

First of all, we have eliminated the type of warning whistle on either the alertor or the ATC that can be disabled by the simple application of a piece of tape, as it was on the Conrail locomotive; instead we have an electronic sounding device that cannot be cut off.

A more difficult problem is presented by the need to have some means to disconnect any of these safety features in the rather unusual event that they malfunction or the locomotive operates in a territory where they cannot be used. Originally, there was merely a simple switch on the engineer's console that would turn off or turn on the entire cab signal system, including the Automatic Train Control. We must have a means to do this when in an emergency the locomotive must be operated against the current of traffic on a particular track, or on a track not equipped for cab signals. A simple switch like this, however, is an invitation to disable the system if the engineer chooses to do so.

What we did here was to redesign the switch so that it could not effectively turn off the cab signals if the train was on tracks equipped for these. If the engine moved to unequipped track and the cab signals were turned off by this switch, they would automatically be reactivated regardless of the switch's position when the engine returned to a cab signal equipped track.

If the automatic speed control malfunctions so as to prevent the train from operating, it can be neutralized by another switch on the back wall of the cab, behind the engineer. This is a sealed switch, and if the engineer has to break the seal and open it in order to move the train, he is required to notify the dispatcher and may then proceed at a speed limited to 100MPH. Under these circumstances the automatic stop control device (as described earlier) remains operable.

Finally, if the cab signals themselves, or even the automatic stop control, malfunction so as to prevent the train from operating, these can be disconnected by separate sealed switches back in the body of the locomotive. If the engineer has to break the seal and open either or both of these switches in order to move the train, he again is required to notify the dispatcher and may proceed, but will be limited to 79MPH as long as either of these switches is cut out.

A different but comparable procedure is required if the alertor malfunctions and has to be cut out by a similar sealed switch. In this case, the engineer is not to move his train until a member of the train crew joins him in the cab and follows Rule 34, which requires the two of them to repeat to each other the aspect of every wayside signal passed.

To prevent the improper use of these sealed emergency switches from going undetected, we are equipping all of them with a newly designed large aluminum seal, which will bear a serial number that will be recorded on the locomotive inspection form. These seals will be inspected regularly, and severe disciplinary action will result if any are broken without proper authorization.

V. Limitations on NEC Freight Traffic

Installation of ATC and anti-tampering devices on all locomotives and self-propelled cars operating in the Northeast Corridor, while essential, does not in our opinion go far enough. If we are effectively to prevent passenger train accidents caused by freight traffic on our NEC lines, we must eliminate the intermixture at the same time and on the same right-of-way of heavy freight trains and high-speed passenger and commuter operations. There is no sure way otherwise to avoid such accidents as the falling off of piggyback containers from freight cars into the path of fast passenger or commuter trains, or the pile-up of freight trains over adjacent passenger tracks from causes such as broken freight car wheels.

Parallel rail routes between New York and Washington exist today that, with some improvements, could handle substantially all through-freight movements. (See Attachment 2 for map of these lines.) North of Philadelphia, Conrail owns tracks of the former Reading and Central of New Jersey Railroads, among others, that could handle-through freight now using our NEC line there. From Philadelphia to Baltimore and Washington, arrangements could be made for such freights to use closely parallel CSX (former B&O) tracks.

Because local freight service must be continued to serve industries reached only by NEC tracks, it would not be feasible to eliminate all freight from the Corridor. Following discussions with Conrail and other freight carriers, however, Amtrak has by bulletin, effective at 12:01 a.m. on Monday, February 16, limited the speed of all freight trains (including light engines in freight service) to 30MPH on the Amtrak owned or operated portion of the NEC main line between Boston and Washington between the hours of 6:00 a.m. and 10:00 p.m. During the night hours from 10:00 p.m. to 6:00 a.m., when there are relatively few intercity passenger or commuter trains operating, we are developing procedures that will minimize or eliminate the instances when freight and passenger trains pass on adjacent tracks at speed, making a substantial contribution to improved safety. We are also encouraging the freight railroads to find alternate routes for through-freight service. While this will decrease Amtrak's revenue from this source, this loss will be more than compensated by reduced maintenance-of-way costs and improved ride quality of our passenger and commuter trains.

VI. Federal Licensing Standards

I support the proposal to establish uniform minimum standards that must be maintained for locomotive engineers. We at Amtrak and most other railroads currently have strict requirements for qualification and requalification of locomotive engineers. These include physical examinations, completion of training, actual experience with and knowledge of the portion of the railroad on which they are permitted to operate, knowledge of railroad operating rules, etc. Reexamination on knowledge of rules is required every year, and there are requirements with respect to periodical physical examinations. We do not, however, have readily available to us information with respect to the employee's private life or activities outside of his job, and it is questionable whether, under existing regulations and labor contracts, we could use such information to disqualify an engineer even if it were available. Accordingly, I support federal regulations that (1) would prescribe minimum qualification standards for locomotive engineers which would be uniform throughout the country, that (2) would require the railroads to issue licenses or some other form of formal certification of qualification, that (3) would require annual reexamination and renewal, and that (4) give the Secretary of Transportation access to the National Driver Register and authority to pass on relevant data to the appropriate railroad for licensing purposes. In my opinion, the railroads themselves should administer this licensing with oversight by the Federal

Railroad Administration (FRA) of the Department of Transportation, rather than having the licenses issued to individuals by a federal bureaucracy itself.

I emphasize that the uniform federal qualification requirements should be described as the "minimum" requirements for qualification of engineers. Individual railroads would then add additional qualifications that might be required because of their unique operating conditions, and, or course, the employing railroad would be the best one to determine that a particular engineer is suitably acquainted with the section of railroad over which he is to run. It should be understood that a fully qualified engineer over one route is not qualified or permitted to operate a train over another route over which he has not been qualified through knowledge and experience, except with a qualified supervisor or "pilot."

National data bank information on criminal convictions and other relevant off-the-job activities by locomotive engineers or locomotive engineer applicants should also be made available to and usable by the qualifying licensing authority. Federal regulations should make it clear that these data are to be taken into consideration in initially qualifying as well as annually renewing locomotive engineer qualifications. Additionally, each applicant for the locomotive engineer license or certificate of qualification and each holder thereof should be required to report promptly to the company, and through the company to a national data bank, such events as speeding violations, reckless driving, and driving under the influence of drugs or alcohol. The availability of these facts to the FRA and to the railroads having the responsibility for qualifying engineers will be of critical importance.

VII. Drug and Alcohol Testing

Amtrak and many other railroads have in place an Employee Assistance Program (EAP) that provides confidential professional counseling and treatment for drug and/or alcohol abuse. Amtrak's EAP has been in existence since 1975. Effective March 1, 1986, Amtrak revised its EAP policy to include a "Rule G waiver" provision. Under that provision, an employee found to be in violation of Rule G of Amtrak's Operating Rules prohibiting the use of drugs or alcohol may, if a first offender, waive investigation of the Rule G charge and disciplinary action by choosing to enroll in the EAP.

This is comparable to the program generally described as "Operation Red Block" in which the operating unions participate. Amtrak recognizes the value of union support of and participation in a Red Block program, and we recently opened negotiations on this question with the United Transportation Union (UTU, representing Conductors and Assistant Conductors) and the Brotherhood of Locomotive Engineers (BLE, representing Locomotive Engineers). I am happy to report that on February 11, agreement in principal was reached on this issue with UTU, and on February 17, a similar agreement was made with BLE. Both agreements are necessarily subject to union membership ratification.

Although Operation Red Block and EAP are important, these programs alone are insufficient to address the very serious risks that drug and alcohol use by railroad employees impose. There must be a more stringent method for stopping substance abuse by those whose activities involve the safety of the public.

To address this problem, the FRA on July 31, 1985, issued regulations requiring post-accident testing of certain employees involved in major accidents and authorizing toxicological testing of any employees when there is reasonable cause to suspect drug or alcohol use. Important rule violations, among other things, provide such reasonable cause.

Again, these regulations are helpful but not sufficiently effective to solve this very serious problem. In the case of the January 4th accident, an experienced Conrail supervisor who was specially trained to recognize users of drugs and alcohol had talked with both members of the Conrail crew before they departed for the terminal and did not detect any indication of drug use. Other similarly trained Conrail supervisors observed them shortly after the collision with the same result; however, in post-accident testing, both crew members had positive test results for marijuana. "Reasonable cause" testing must be continued but is inadequate by itself to detect use of drugs that have subtle behavioral effects. If we are to provide the safety to which the public is entitled, a fair system of mandatory random urine and blood testing for alcohol and drug use among all safety-related employees is essential.

Accordingly, I urge the Congress to pass legislation requiring the DOT to promulgate regulations calling for random drug and alcohol testing of "hours of service" and other rail employees whose duties directly affect public safety. These regulations should apply also to other comparable transportation workers such as airline pilots and air traffic controllers.

In my opinion, such requirements should have three important features: First, the testing should be selected by a computer so as to be truly random and not subject to attack on the basis of claims of individual discrimination or harassment. Second, the preliminary screening test, if positive, should be subject to a verification test by a more accurate (and costly) method. Third, the sole issue to be determined through such testing would be whether a detectable amount of prohibited drug is present; "impairment" should not be at issue, since it is impossible to quantify scientifically. The use alone of prohibited substances should preclude an employee from, for example, driving a locomotive or flying a commercial airliner.

VIII. Passenger Car Safety Improvements

Amtrak has an ongoing program to modify existing equipment to improve the interior of our passenger cars. Some of this has already been accomplished, but we are currently developing further improvements in seat covers, seat restraints, baggage restraints, and microwave oven restraints.

NTSB investigations after a July, 1984, Amtrak accident in Vermont revealed that some passengers suffered head and facial injuries when the seat back in front of them dislodged, exposing a piece of sheet metal that serves as part of the headrest support. As a result of this, Amtrak immediately began redesign of coach and seat back cushions used on Amfleet and Heritage coaches to prevent their becoming dislodged when struck from behind.

Amtrak has designed a device which fits over the tip of the seat back and forms a safe plastic edge to cover the sheet metal which may become exposed on impact. In addition, a new seat cushion has been designed that should reduce the incidence of cushions pulling from their seats, exposing the sheet metal supports. Amtrak solicited bids from interested suppliers on this retrofit in mid-November and awarded a contract in December. We have already reviewed the design developed by the manufacturer, and we have asked for certain modifications which we are hopeful will produce a final design of this piece of equipment by this spring. The estimated unit cost per car of these devices is $525.00. 348 NEC units would be needed, with a total cost of $185,500. 319 additional units would be needed to improve the entire Amtrak fleet, at an additional cost of $164,500.

Another seat improvement Amtrak will be installing is a redesigned seat lock device which would prevent rotation of seats on impact. The unit cost per car is $5,544.00. The NEC requires 348 units at a total cost of $1,929,312. The additional total fleet requires 507 units at a total cost of $2,810,808.

In December, 1986, a prototype design for overhead luggage retention devices was developed and installed on an Amfleet coach. The prototype is now being tested. When Amtrak is satisfied with the design, all Amfleet cars will undergo a retrofit. In addition, Amtrak has designed improved baggage restraint features into its new generation of low-level sleeping cars. The unit cost per car for this improvement is $8,332. 348 NEC units would cost $2,899,536. The 731 additional system units would cost $6,090,692.

Finally, more effective restraints on the microwave ovens in food service cars have been designed and installed on a number of cars. The estimated cost for completing these modifications is $530 per unit, for a total of 69 NEC units ($36,570) and 130 additional total fleet units ($68,900).

IX. Anti-tampering Sanctions

Finally, I would urge that the Federal Railroad Administration be given the authority it needs and has requested to regulate directly the conduct of railroad employees, and especially those who have safety-related responsibilities. At the present time, the Department of Transportation does not have the statutory authority necessary to penalize railroad employees who tamper with safety devices, or supervisors who condone this. I think this committee can help resolve the problem of tampering with safety devices by giving the Secretary the authority needed to impose sanctions on any individuals as well as companies who violate the law.

Mr. Chairman, that concludes my prepared testimony. I will be happy to answer any questions from you or members of the Committee.

Mr. McCurdy. Well, thank you, Mr. Claytor. That was a pretty comprehensive list, and we certainly appreciate your direct approach to it and your forthrightness, and it sounds like many positive suggestions.

I think I really only have one question, and that pertains to the cost, the issue of cost. The first witness, Mr. Burnett, said that some of the reluctance within the industry and with the Federal Railroad Administration had been the cost of implementing some of these safety devices and the new technology.

And yet you, as President of Amtrak, have said that they should be done, not only the automatic speed controls, which you said cost around $25,000 apiece, anti-tampering devices, alertors, even the question of regulation.

Do you feel that the American railroad industry can still be competitive and profitable with these additional costs? Are they significant; are they minor? What has there, in your opinion, been the reluctance by the Administration to require some of these devices?

Mr. Claytor. Well, I think on the Northeast Corridor, the previous accident that was referred to and when they first asked that this be made universal, was a rear-end collision, and we did change some rules, so that that type of collision could not happen, and that met that problem.

It didn't meet the problem of trains running red signals and other situations. And I think that there is a question, there's great opposition by the commuter agencies, who actually have got more vehicles running on the Corridor than we do, and by the freight operators to spend money that they don't feel is necessary, and that's just human.

I think it is now clear that on the Corridor, where we have a unique traffic—rail traffic problem, it plainly is called for, and we did it for all of ours on our own. We now say we need governmental help in requiring that everybody who is going to run on this Corridor do this.

Now the question, though, was raised about requiring this elsewhere. Now that is not feasible under existing technology. Maybe a new technology will come along that will. Because this type of automatic train control can only be used if you have cab signals, which have to be put into the track. That is extremely expensive. It would probably cost more to do it on all the main lines in the United States than the railroads may be worth.

Mr. McCurdy. Is that why you're interested in the satellite system?

Mr. Claytor. Yes, that's right. There are other technologies that are being explored.

Mr. McCurdy. Who is developing that?

Mr. Burnett. And some of it is spelled out in the NTSB's written testimony.

Mr. McCurdy. Who is developing that system?

Mr. Claytor. The Association of American Railroads, working with the Canadians, and we are part of that. We have a member on that committee, and we'd like to see that done, because we run a lot of trains off-Corridor, too. But it's a very different operating environment with a maximum speed most places of 79 miles an hour and much less than that in other places and one or two passenger trains a day versus one or two passenger trains every 15 minutes on most of the Corridor from here to New York.

Mr. McCURDY. Very good.

Mr. Lewis? Oh, by the way, Mr. Lewis, I would like to recognize the gentleman from Kansas, Mr. Glickman, who is the former chairman of this subcommittee and now chairman of the Wheat and Feed Grains Committee over in Agriculture. We know from Kansas, where it's priorities are, but he is certainly——

Mr. GLICKMAN. We use a lot of trains in the Northeast Corridor to transport that wheat.

Mr. McCURDY. That's right.

Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

Mr. Claytor, does Amtrak have a safety research program?

Mr. CLAYTOR. Yes, sir. Well, by safety research, we do a great deal of research in everything, and we have some major safety—employee safety programs underway. But every time we can find any passenger safety problem, we try to look into it and see what we can do about it, and this is one of the reasons we've developed some of these devices that we now have.

Mr. LEWIS. Do you have any idea how much money you spend on this a year?

Mr. CLAYTOR. Well, Mr. Sullivan, have you got any idea about how much money it's cost us for the automatic train control? Of course the cab signals were already here. They were on the Pennsylvania Railroad. We inherited the cab signal system.

Mr. SULLIVAN. Well, that, of course, was—most of that equipment was installed prior to our taking over the Northeast Corridor. But in the area of safety programs, employee safety programs and so on, we probably spend, I would say, several million dollars a year in those programs, to implement and improve our employee safety programs.

Mr. LEWIS. Is Amtrak looking to getting into the high-speed rail industry, anything above 125 miles an hour?

Mr. CLAYTOR. No, sir. 125 is the maximum speed we think we can probably run, because of the configuration of the road bed between here and New York, and we can't run that fast anywhere else that I know. So the Japanese, French type of high-speed trains have to have special railroads built for them, as they were in both of those countries, and that is incredibly expensive, and Amtrak has got its basket pretty full running the system we're now running, and we'd like to continue to do that.

We will cooperate with any organization, and we hold ourselves out to cooperate with any organization that's got the financing to build a high-speed transportation system, and one is cooking in Florida, and we're working with them, and they have been suggested in Texas and in the Middle West.

But the problem so far has always been, how are you going to get the incredibly large amount of financing that's needed? The European governments have done this, and then the trains all operate at a profit, if you don't have to make a return on the investment. They certainly can all cover their operating costs without any difficulty.

But when you have an investment of several billion dollars as a minimum required for even a short system, it's pretty difficult to get over that first hurdle.

Mr. LEWIS. Thank you, Mr. Claytor. Thank you, Mr. Chairman.

Mr. MCCURDY. Mr. McMillen?

Mr. MCMILLEN. I would commend Mr. Claytor and Amtrak on the state-of-the-art improvements that you have implemented, ATC controls, safety in your interior and likewise.

Some of the questions that I would like to ask you relate to the learning curve from the recent crash, what you might have learned in terms of car crashworthiness. The Maryland medical shock trauma units were involved in the rescue efforts of there, and in my discussions with some of the people on the scene, they made some comments about the cars, the ability to really get into the cars.

I know what a terrible collision it was. I was wondering what your thoughts might be on that?

Mr. CLAYTOR. Well, one thing is that the structural capability of the car was most encouraging, because while the two front cars were totally destroyed, the rest of the train all stayed coupled. It zigzagged off the track from the impact. None of them turned over, and none of them were really badly destroyed, except for the first two, which nothing could have prevented.

So structurally I was very much—very favorably impressed with all these new cars that we have.

I think a problem that we need to work on is, we have air-actuated doors, and we've got to get the end doors in the cars so that they're more easily opened by hand when the air is gone, as it would be in any major derailment. We did run into that problem, and we're going to work on it.

We are also in the process of putting plastic safety instructions at every seat, the way airplanes do, which will identify the location of all the exits. Of course, there are four, I think, in each passenger car, windows that are emergency exists, plus the end doors, and how to open them. And conductors, once we get those in place, the conductor, when he welcomes you aboard, will mention that you should read the safety instructions. We are doing those two things that I think did come out of this accident.

Mr. MCMILLEN. Are you able to accomplish most of your research objectives? Do you think industry can do so in the private sector? Is there help—do you need help from the Federal Government?

And as an adjunct to that question, you were addressing the satellite plan; maybe you could elaborate a little bit on that, just to give me a little understanding as to what your future plans are. Can you fund them, and what is the outlook ahead here in terms of you ability to put these safety measures in place?

Mr. CLAYTOR. Are you talking about the advanced satellite?

Mr. MCMILLEN. Yes.

Mr. CLAYTOR. Well, I don't know enough about that. I'm not a scientist and haven't gotten into that enough, because I'm not a member of the committee.

I know that it's being studied as an industry-wide problem. It's not a passenger train problem. It's an industry-wide problem as to how we can arrange to have computer control or at least an indication of where every train is and how it can be controlled, and that is being studied, as I say, by a combined Canadian/American industry group.

I think it's pretty far down the road. I don't think we're about to get anything like that. And once it's worked out technically, we don't know how much it would cost. And of course it can be so expensive that it wouldn't be feasible. That we don't know yet.

Mr. McMillen. Do you see the Administration's attempt to privatize Amtrak as creating problems for you to fund these kinds of R&D investments?

Mr. Claytor. Well, the Administration, for the last three years, has indicated that Amtrak should be phased out of existence. The current request to the Congress, I think, is that the Northeast Corridor and such other sections as could be sold should be sold. We are improving our financial standing every year, but we are still only covering slightly less than two-thirds of our total costs with our own revenues, and it's pretty hard to see how somebody is going to pay a billion or two dollars for an operation that is going to lose up to $600 million a year.

But one way it could be done, I guess, is to let the purchaser agree to stop running the system and just scrap the real estate, and even then, by the time we've paid labor protection, which would cost over $2 billion if we stopped service, I don't think you'd have anything left.

So this is a battle that we have had for the last three years, and we may have to talk about it again this year.

Mr. McMillen. Thank you, Mr. Chairman.

Mr. McCurdy. The gentlewoman from Maryland, Mrs. Bentley.

Mrs. Bentley. Thank you, Mr. Chairman.

Mr. Claytor, I want you to know that I appreciate the ads that you ran in the paper to thank the residents of Chase for all of their assistance in the accident. I think we can all say that it was an act of God that the accident didn't happen 1,200 feet further down the road.

Mr. Claytor. Certainly true.

Mrs. Bentley. Then it really would have been a tragedy.

Mr. Claytor. That's right. I wanted to say, too, Mrs. Bentley, how much all of us appreciated the enormous spontaneous support we got, not just from the people we expect to get support from, the fire departments and the rescue squads, but from the residents, the people in the area. They just turned to it and did everything. We were planning to go over and thank them personally when the snowstorm broke that up and I hope we can still do that.

Mrs. Bentley. Well, we are still planning to have one of those events.

Speaking of the great turnout, a lot of the assistance from the fire departments were from volunteer fire departments.

Mr. Claytor. Yes.

Mrs. Bentley. As you know, volunteer fire departments raise their money by dinners and things like that, making $0.50 to $1.00 a head. I'm getting together a list of equipment that they all lost on this accident. It's going to come to somewhere between $50,000 to $100,000 altogether.

Do you think we might find the money to replace this for them?

Mr. **Claytor**. Well, Amtrak is in the difficult position of being supported by the Federal Government sufficiently so that we are not able to make charitable contributions to anything, from the United Givers Fund on, but for material that was actually destroyed in the accident, I think we can talk about that. What we would like to do——

Mr. **McCurdy**. The Chair will indulge the gentlewoman's solicitation here. I think there may be an appropriate opportunity to follow up on that. I think she has certainly made her point there. I think we have to move on to other questions.

Mrs. **Bentley**. All right.

One other thing; you were saying about minimal Federal standards for engineers. How does one become an engineer on Amtrak now?

Mr. **Claytor**. You go to—you select someone, pass the physical and all those types of things, then we have a training course which is a classroom course, to learn about the locomotive and that sort of thing, a detailed training course, then you go out on the road and have on-the-job training, then once you have passed just the knowledge of how to run the engine, you have to pass all the rules, the operating rules which are a thick book of rules like this [indicating]. You must know those practically by heart.

You then have to have experience on the road with a qualified engineer running the train with somebody else standing over you and making sure you do it, and you finally pass the operating exam and then you can do it. It's a long thing; six months to a year, I think, is about the minimum from scratch that you could qualify an engineer.

I'll tell you. We started this program on my old railroad, Southern Railway, back in the 1960's. The traditional way you became an engineer was you got to be a fireman and after you learned how to shovel the coal, which is not just back breaking, it takes a good deal of skill, then when you were operating as a fireman, the engineer would teach you how to run the engine and you'd learn this way.

You frequently learned a lot of things you shouldn't learn, too, when you used that. There was no formalized instruction. If you got a good responsible engineer who was training you, you learned it right and if you got somebody who taught you all the tricks about how to make it easy and get the job done without anybody catching you, you learned that, too.

So I think the present system of having a real well defined, well worked out training program followed by the on-the-job training turns out the most qualified engineers that you can have.

But I like to have standards, Federal standards, that would be uniform all over the country. There wouldn't be too much trouble in everybody agreeing on them. I expect they are reasonably uniform now. I think that would be a good base to start from.

Mrs. **Bentley**. You mentioned one other thing, configuration of the road bed was questionable and caused some problems. What exactly did you mean?

Mr. **Claytor**. I beg your pardon?

Mrs. **Bentley**. You said the configuration of the road bed was not conducive to speeds, I guess.

Mr. **Claytor**. Curves. The super high speed lines in France and Japan are designed to go right across the country and with passenger trains, very powerful engines, your grades can be pretty steep. You can go up hill and down hill but you can't go around the hill. Now, railroads are built as much on the level as possible, because the most difficult thing for a freight train is to try to climb a hill and then go down a hill. You go around the hill. For a high speed passenger train, you go over the hill.

Our existing railroads are just not capable of having this kind of super high speed. We are very fortunate that the land between here and New York is pretty flat and this railroad was built with fairly long stretches of very gentle curvature. That's why we can do 125 miles an hour over a significant part of it.

Mrs. **Bentley**. Just one last comment. As one who has been a frequent user of Amtrak, and I'm still going to use your train on Friday, I feel it is very safe.

Mr. **Claytor**. Thank you. Mr. Chairman, there is one other thing I should mention. I was rushing through this too fast. We strongly favor and feel it is absolutely essential to have random drug testing, for safety related employees, not for everybody, but for safety related employees.

The testing that is under the existing FRA requirements of reasonable cause testing should also be continued. We think that is important, but on this very accident, a supervisor who had been trained, a Conrail supervisor who had been trained in drug detection, interviewed these two men before they started out and didn't find anything wrong with them, and yet they tested fairly high with drugs.

Now, I agree with the NTSB that it is extremely difficult and in most cases impossible to find impairment from drugs, how much drugs results in impairment is a very subjective question and the experts all disagree. I think that's unimportant.

We cannot have any detectable drug in the system of anyone who has a safety related job on the railroad or on the airline. That's the test. If he's got drugs at all, he has to be out of that job. We can determine that very clearly because the initial urine test will, they tell me, come up sometimes as much as five percent false positives, but if you have any positive, you then re-do the test in a much more sophisticated and expensive way, and that is just about 100 percent accurate.

So we can find that out and we've got to do that. It's got to be done by congressional statute. If you——

Mr. **McCurdy**. On the random drug testing? Why can't you do that as a company policy?

Mr. **Claytor**. Oh, it's been enjoined a dozen times all around the country, constitutional grounds. Really, if we try to do it ourselves, it's labor agreement. The labor agreement, they consider this is a question subject to labor agreements. If the labor agreements don't permit it, we can't do it.

But I don't think it ought to be tried even just by Federal regulations without statutory backing because you are then going to get into court with an argument, not only on the constitutional, which

I'm satisfied we can satisfy, but the argument that there is no authority to go this far in a regulation without specific congressional backing. I think we desperately need a statute authorizing mandatory random testing for safety related employees only, not for everybody. We've to have that.

Mr. McCurdy. Member of the Judiciary Committee, Mr. Glickman.

Mr. Glickman. Thank you. Mr. Claytor, I appreciate seeing you again. I think one point you made is very interesting, that if the Northeast Corridor is sold as the Administration requested, in all likelihood, it would probably be liquidated, no more trains in the Northeast Corridor.

I think anyone of wishful thinking that somebody would pick that up and operate it kind of ought to have their head examined, because it wouldn't happen.

Mr. Claytor. I think that's right.

Mr. Glickman. I'm going to have to leave in a minute so I'm not going to be able to ask Mr. Riley this question. I still remain concerned about the fact—if I'm wrong, correct me—about the relationship between the FRA and the railroads, including Amtrak.

It's my understanding that at least as of a year or two ago, that FRA employees retained their seniority rights with the railroads they worked for. I wonder if you could comment on that, and is that true with Amtrak?

Mr. Claytor. Oh, yes. It's true in the railroad industry. It's true in the railroad industry. If you—normally if you are a union member with seniority rights and you are promoted to a management position, such as let's say a train master or even a division superintendent, you retain your seniority and may go back if you leave your management job and claim your seniority with the railroad. That's a union rule.

Mr. Glickman. I'm not talking about the union rule. Let's say I am an employee with the Amtrak System and the FRA hires me as an inspector. Somebody who is going to look at this accident in Chase, Maryland, and basically be a safety inspector, and then at some point go back and work for the railroad.

Mr. Claytor. He has no seniority as management. That's a union problem purely. He has union seniority. He has no seniority with Amtrak, no right to come back to us. He has a right to claim a job and bid in on a union job because it is a union rule.

Mr. Glickman. Union job with what, the union or the railroad?

Mr. Claytor. No, with the railroad; with the railroad, but we have to hire the people by seniority under our contracts.

Mr. Glickman. Okay. I go back to the fact that if we did this with the airline, our public would say you would have to have your head examined to do this kind of thing. I guess my concern remains that you have people who work for the Federal Railroad Administration who have financial—some form of long term financial ties with the railroads.

Mr. Claytor. They don't have any financial tie to the railroads.

Mr. Glickman. Job retention rights.

Mr. Claytor. He could only get—I don't know whether they maintain their seniority with FRA or not. I can't answer that question, but they do maintain seniority when they go to work for a private company, for us, for example.

If we fire a superintendent because he's just not good enough to be a superintendent, he can go down and take back his job as a locomotive engineer or a mechanic.

Mr. GLICKMAN. Because he retains that seniority right?

Mr. CLAYTOR. Yes, he retains it, with the union. The union establishes seniority. We don't.

Mr. GLICKMAN. I realize these are unique rules that are applicable to railroads. All I'm saying is to ensure public confidence in the safety transportation in this country, this is a rule that has always bothered me, because the FRA is the safety agency of this country. The public would not tolerate——

Mr. CLAYTOR. Well——

Mr. GLICKMAN. If I may finish, sir. I've got the microphone. Let me finish; okay? The FAA regulates air safety in America. They have inspectors. They have maintenance supervisors. They have all sorts of other people who are looking at engines, o-rings, and landing gears and all sorts of other things. The whole goal there is to keep an arm's relationship between the airlines and their Government regulators.

I guess I go back to the point that notwithstanding these union rules, which I understand are there, does the fact that an employee of FRA, that he has some seniority rights with his union, does that violate or jeopardize that arm's length relationship for safety purposes?

Mr. CLAYTOR. A pretty arm's length relationship between unions and management anyway. The fact that he has the right to claim a job, the company is not going to consider he is one of their people. He may be one of the union people, but let me say that if they maintain seniority when they go to work for the FRA, they do also if they go to work for the NTSB. They have union people there, too. They have former railroad workers on the staff of both organizations.

It may well be that the Government just says, you must give up your seniority rights if you go to work for us. I don't know. They could do that. I don't know whether they do or not.

I do know we can't very well make them give up their seniority rights if they want to work with us.

Mr. GLICKMAN. Do you feel that you have an arm's length relationship with the Federal Railroad Administration?

Mr. CLAYTOR. Oh, yes. If I didn't, I sure would do something about the fines that I get, many of which I think are unjustified.

Mr. GLICKMAN. Do you have historically many employees from Amtrak who have let's say been working for the FRA and have come back and worked for Amtrak?

Mr. CLAYTOR. I don't know of any. I don't know of any at all.

Mr. GLICKMAN. Have you read a GAO report that was issued in the last few years on this particular issue? I think it was four or five years ago. It talked about the numbers of former FRA people retaining seniority rights, going back and working for railroads again.

I'm not sure this is as big a problem as perhaps it once was or was characterized in my mind, but it struck me after that accident in Chase, Maryland and after some of the other problems in other forms of transportation, not just railroads, because your statement is pretty clear, there are far fewer people getting killed on the railroads than any other form of transportation.

Mr. **Claytor**. Right.

Mr. **Glickman**. I recognize that. I'm just saying it still disturbs me. My own judgment is something that ought not be in here, I guess.

Mr. **Claytor**. I guess the reason I tend to disagree with you is it doesn't seem to me that maintaining a union seniority right is anything like it would be if for example, Denny Sullivan went to work for the FRA with an understanding that whenever he finished, he could come back and work for me. That is the kind of thing that you can't do, but having a contract right with the union, and the union has a contract right, to make us take him back whether we want to or not, is not—while he's at the FRA, he's not going to do something for my railroad, whether I'm Amtrak, Southern Railway, or Burlington Northern, on the ground that it will be fine when I get back to work for those guys because he's a union man, and the loyalty is primarily to the union and not the company anyway.

Mr. **Glickman**. I am not sure that's true. I think the loyalty is to the union but it is also to the company as well. I think most people work for both.

I'm just saying to you that this is one area of archaic historical ways railroads have done business, which is a lot different from the ways of the airlines and the trucking people and the banks—after all, I don't want an FDIC employee going back to work for the bank that he's inspecting the next day, regardless of what the rules are.

I wanted to bring this out. I appreciate talking to you about it. Thank you. Thank you, Mr. Chairman.

Mr. **McCurdy**. Thank you, Mr. Glickman.

Mr. Claytor, thank you very much. Mr. Moore and Mr. Sullivan, we appreciate your attendance today and certainly your testimony and your willingness to raise these issues. It's good to see you.

Mr. **Claytor**. Thank you, Mr. Chairman. If anything comes up in this or other hearings that we have not answered and you want an answer, if you would let us have the questions, we would be delighted to.

Mr. **McCurdy**. We appreciate that. Thank you, sir.

Our next witness is Mr. John Riley, Administrator, Federal Railroad Administration. He will be the last witness that appears individually and then we will have a panel of Mr. Jim Snyder from the United Transportation Union; Mr. Elmer Garner, Railroad Safety Consultant; and Mr. Ross Capon, Executive Director of the National Association of Railroad Passengers.

Mr. Riley, we will introduce your statement in its entirety into the record and appreciate your testimony.

STATEMENT OF JOHN RILEY, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION

Mr. RILEY. Thank you. I want to introduce three people who are with me today. First on my left is Joe Walsh. Joe was a former officer of the Signalmen's Union who is now head of safety for FRA. Joining me on my right will be Mark Lindsey, who is our acting chief counsel. On the far left, who is our answer to Vanna White, is Phil Olekszyk, who is the Deputy Associate Administrator for Safety.

Mr. McCURDY. He doesn't do very well. [Laughter.]

Mr. RILEY. No. He's learning. We've had to train him on the job. He told me he will not be appearing in Playboy later this year.

Thank you, Mr. Chairman. I've been delaying while they get the spelling of Mr. Olekszyk's name on the record.

It's been three years since I last came before this Committee on safety, Mr. Chairman. What I'd like to do today is talk first from the broad perspective, on the big picture, of what has happened over the last three years and then turn to the specific, where I think this Agency and railroads in general need to go, if we are going to be able to come back in two or three years and reflect statistics like the ones that show on those charts.

The last 36 months have been pretty much a historic period in the railroad industry from a safety perspective. 1985 was by any measure in every category the safest year in the history of American railroading. While our numbers for 1986 are still preliminary because we have a reporting delay, it appears to us at this point, and those are tentative figures for 1986, it appears to us that in 1986 we will break the 1985 standards in virtually every category by double digit numbers. The numbers are reflected on the charts to my left; I think they speak for themselves.

Since I came before this Committee three years ago, the raw numbers of accidents in the industry have declined by 31 percent. The accident rate, which is normalized so that it is a little more reliable indicator, is down by 32 percent.

Track and equipment accidents, the hardware accidents, the kind of things you can find with an inspection, are down 37 percent in the last three years and more than 75 percent in this decade, at a time when work place injuries are increasing in so many American industries. They are down 25 percent in our industry over the last three years, 65 percent in the decade.

Grade crossing accidents have continued to decline. Train movement fatalities, an interesting number. Down 33 percent in the last three years, down 58 percent in the decade. They went up by three last year, from 23 to 26. I think, as I'll get to in a moment, that's reflective of a shift in what's causing railroad accidents today, from equipment to human factor accidents. The human factor accidents tend to be fewer in number but more severe. We'll talk about that in just a moment.

Mr. Chairman, I believe those are dramatic figures, particularly when you look at the changes that have occurred over the decade. There isn't another mode of transportation that can show that kind of improvement in its safety performance in the 1980's, and the improvement was not a matter of chance.

The principal factor behind it frankly was a statute, the Staggers Act, passed in 1979 in the Carter Administration. The Staggers Act gave the railroad industry something it hadn't had for decades, which was cash flow. Since the Staggers Act became law, the annual average investment in track and equipment by the railroads has tripled, and nearly $12 billion has been put back into the infrastructure, and you can see that reflected in the rather dramatic decrease in track and equipment related accidents.

Having given the Staggers Act its due, however, I also believe that the improvement in railroad statistics relates also to an increasingly effective Federal enforcement program.

Now we have three basic elements to your program. First is the Agency's safety regulatory authority. Second is the research and development program which backstops it. Third is the enforcement program, which blends individual on-site inspections with complete system assessments of targeted railroads, targeted basically on their safety performance.

Over the past three years, FRA has concluded more regulatory and in some cases de-regulatory proceedings than in any similar period in the Agency's history, 14 to be exact. As we enter our 20th year, which this is, our inspector force is at an all time high, and as the chart on my extreme left indicates, the number of on-site inspections performed by those inspectors, has increased in every category since I was last before this Committee, and they are also at their highest levels in the Agency's history.

Over the same three years, these same inspectors in addition to those on-site inspections, have completed comprehensive system assessments on nine major carriers and partial assessments on 58 others. I think the safety numbers reflect that.

The budget proposal we have put before Congress this year, although I recognize this is not a budget committee, encompasses about a five percent increase in our resources. I feel, with that increase, confident in saying we will at least equal the number of onsite inspections that we performed a year ago. We will in addition conduct full system assessments on three railroads, Conrail, the Soo-Milwaukee and a commuter carrier yet to be designated. We also intend to go back and do a follow-up assessment on SEPTA, as we did a year ago.

Our regulatory effort over the next year will be fourfold. First, both in timing and priority, will be completion of the now ongoing communications rulemaking. The communications rulemaking runs the gamut of communications issues in this industry, from use of radios through satellite train control to automatic train control. That remains our first priority.

Second, upon completion of that proceeding, we intend to commence a formal inquiry on safety issues stemming from construction and equipping of the locomotive cab.

Third, we now have commenced what will be about a ten-month analysis of dispatching practices, and I think this is a very important issue in the railroad industry. At the completion of that study, we intend to do a public proceeding on it.

Finally, we are re-examining decisions made both by FRA and NTSB, and I want to emphasize that, by both agencies, in the early 1970's and 1980's, not to require the use of automatic train control by freight trains in the Northeast Corridor, but to instead accept Amtrak's operating procedures as a substitute.

Frankly, Mr. Chairman, I'm not completely comfortable with that decision. I believe it needs to be re-examined and we will review it and take whatever action is necessary in the next year.

Now, I want to emphasize to the Committee that these regulatory priorities, like our decision to go with the alcohol and drug rule a year ago and to go with the regulation that opened the door for modern telemetry devices to monitor train braking systems, are not a matter of chance. We are painfully aware that safety resources in both the public and the private sector are finite. We are very aware that our regulatory program has enormous influence over where the railroads put those resources.

Safety is very much a cost benefit issue, and to the extent to which an agency like ours, with our regulatory program, induces railroads to put their resources in the 8th, 9th or 10th most important area, as opposed to the 1st or 2nd, we hurt safety, and we take that prioritization process very seriously in trying to direct resources to the areas where they will do the most real world good.

Now, looking beyond next year and the longer term future, there is an issue in those positive safety numbers that may not be apparent on the face of the numbers, because while overall safety performance of the industry has been improving and the number of accidents has been declining, there has been a subtle shift in accident causation in recent years. Hardware, equipment related accidents, such as track and signal failure, have declined dramatically, more than 75 percent in the decade, but at the same time, human performance accidents have become an increasing percentage of all accidents and a dominant cause of the truly serious accidents.

We are now past the era, I'm afraid, in which we could generate these kinds of dramatic improvements in safety numbers with a few million dollars and making up for deferred maintenance or a few more track inspections.

If we are going to keep these numbers moving downward in the future, we are going to have to deal with the very complex issues that arise from human factor accidents. I think our approach to those issues has got to come from two directions. One is the strengthening of my Agency's enforcement authority. We proposed that and I will expound on that in a moment.

The second has to come from technology, it really does, technology that both minimizes the opportunities for tampering and the consequences of human error.

On the first issue, I think most people are surprised and even shocked to learn that FRA's enforcement authority extends only to railroad companies, that unlike the FAA, we have no direct enforcement authority over the people who actually run the trains. At a time when human factor accidents are becoming a dominant cause of the major accidents in our industry, that is a problem and it is a serious one. It's a simple fact, Mr. Chairman, that safety is a shared responsibility between management and labor, between individuals and corporate entities, and a statute that grants us enforcement authority over half that equation can never be more than half effective.

Accountability in my judgment has got to extend beyond the amorphous corporate entity to the people who run the trains and make decisions on how those trains ought to be run. It happens in the FAA and it is a fact under existing hazardous materials safety statutes that we need the same authority.

Where we have the power to regulate, in areas like track equipment and signals, FRA has produced spectacular improvements in accident ratios, and we can do the same thing in the human factor area if we have full authority to act.

Now, the most obvious example of where this is an obstacle to our acting effectively is in the issue of tampering. I think this is the most serious immediate issue that we are facing in the industry today. The intentional tampering and disabling of safety devices by operating employees.

In the Chase, Maryland accident, a basic warning device designed to assure crew attention to stop in an emergency was found to be taped and intentionally disabled. Mr. Chairman, it's not an isolated incident. In the three weeks that followed, our inspectors found nearly one case a day in which a critical safety device had been disabled. I don't want to be pessimistic, but I have to say there was testimony earlier about electronic alerting devices rather than whistles being more palatable. We found three of those disabled.

There was testimony about automatic train stopping equipment. We found two of those disabled. Every type of safety device one could put on a train, in my judgment, is being disabled on one occasion or another.

It's not just an American problem. Last week the Canadian Commission of Inquiry into the tragic major rail accident they had in Hinton delivered its final report. In that report they concluded that tampering with the train's automatic stopping device was the likely contributing cause of the accident. Given the ease with which one can remove the evidence of tampering with the device when he goes off duty, I'm afraid that what we have discovered really is the tip of the iceberg, because we are not just finding the people who tamper, we are finding the people who tamper and aren't smart enough to remove the tampering device when they leave. That is what worries me.

Every one of these is a Chase accident waiting to happen. It is a serious problem. The best safety devices we can design are going to have very little impact if they are disabled by the very people they are designed to protect. Our ability to deal with this issue is materially impaired by the fact that we can sanction only the companies. We can take no direct action against an employee even if we catch him in the act. We have in fact done that, Mr. Chairman. We have caught one in the act.

We have submitted legislation that will close this loop hole by granting us the same enforcement authority FAA has over companies and individuals. Adoption of that legislation is the first element in an effective assault on human factor accidents. The second element is technology.

Now, a lot of——

Mr. McCurdy. Can I interrupt you, Mr. Riley?

Mr. Riley. Yes; you may.

Mr. McCurdy. The only reason and I apologize, the Chairman of the Full Committee has called a meeting that I have to attend. I am going to turn the gavel over to my colleague from Maryland, Mr. McMillen, who although a new member is a very capable one who is going to proceed with your testimony and the testimony of the panel that will shortly follow. I hope to return in time for questions. If I can not, he is certainly able to handle this. I just wanted to let you know. I apologize again to the other witnesses. I am going to try to make this as quick as possible, but I will be returning.

Mr. McMillen?

Mr. Riley. That's fine, Mr. Chairman. If there are any subsequent questions, we would be glad to answer them in written form.

This is really the conclusion of my statement. Turning to technology——

Mr. McCurdy. I'm not trying to cut you off.

Mr. Riley. I'm sensitive—when I was a congressional staffer, I staffed these hearings for years and I am sensitive to the time demands.

On technology, technological progress has come to the railroad industry across a broad series of fronts. I think the technologies of the future will differ from the technologies we have today in a couple of respects.

First, there is going to be a new emphasis on producing equipment that is less susceptible to employee tampering. Now I think we have to be realistic and recognize that any device that requires a human response is susceptible to being tampered with, because you can simulate that response. FRA is working with the industry to try to make tampering more difficult and more easily detectable. In fact, we are in the process of developing a purely passive alerting device which will key off the body functions of an engineer and not be as unpleasant to the engineer as present devices and far less easily tampered with.

Secondly, the emphasis of tomorrow's technology will increasingly focus on minimizing opportunities for human error by restricting the individual's ability to ignore or disobey a signal or a dispatcher's order. They are going to increasingly emphasize human judgment as a fail safe mechanism for the functioning of mechanical devices rather than the reverse of that, which tends to be the theory today.

Now there are a number of automated control devices that we have in the industry today and some of them are very good. They are the state-of-the-art. They encompass automatic train control, alerting devices, train speed control. These are hardware devices and they suffer from three common disabilities, more or less.

First, because they are heavy hardware devices, they are prohibitively expensive, and I'm not talking here about not doing something because it costs money. I've never been swayed by that argument. In automatic train control, for example, the cost of converting Conrail alone to an automatic train control system would exceed the net worth of the company. That's the problem with current systems.

Secondly, they are inherently susceptible to tampering. Third and finally, they are purely reactive. They are designed to induce emergency braking after a train has already run through a signal.

Now, they are as good as we have today and we ought to use them. I want to emphasize to the Committee that we are moving very rapidly toward a new stage of technology and systems of the future designed to adapt to the fundamental weaknesses of the systems of the past. For nearly a decade, Canadian and American railroads with our assistance have worked in partnership to develop a project called ATCS. ATCS through the use of onboard microprocessors, computer software and road bed transponders will create a system that constrains the operation of the train on a continuing basis within parameters established by a central dispatcher.

It limits the operating discretion on a continuing basis rather than responding in an emergency manner only after a signal has been violated. The actual construction cost of this transponder-based system is a fraction of the current heavy hardware systems, and while the engineer will certainly retain the ability to override if he has to in the case of an emergency, any action to override that system will be known immediately in the central dispatching office. It cannot be done secretly.

Now I want to emphasize in wrapping up and going to questions that I'm not talking about Buck Rogers technology with an implementation date after the year 2000. The basic elements of the system are being tested this year and the first on-line ATCS full system will be in place by the latter half of 1988. We are very close to this.

Now, I have to tell the Chairman that implementing new technologies in the railroad industry is not always an easy task. For a quarter of a century, the railroads themselves were so cash poor it was difficult to do it. Virtually all of these new systems are not labor intensive. As a consequence, it becomes virtually impossible, very difficult at least, to get collective bargaining agreements that allow them to come into play. That's where I think an Agency like ours does play a role.

FRA ordered the acceptability of modern telemetry devices to run power brake tests a year ago over a lot of objections. We are about to do the same thing in the communications area. We are prepared to act in the future as we have to.

A lot of these technological issues, Mr. Chairman, are very, very complex and difficult, and I would be glad to answer any questions that you have, highlight pros and cons, give you a sense of our thinking on them, and I thank you for the time.

[The prepared statement of Mr. Riley follows:]

TESTIMONY OF JOHN H. RILEY
FEDERAL RAILROAD ADMINISTRATOR
BEFORE THE
HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON TRANSPORTATION, AVIATION AND MATERIALS

February 25, 1987

Mr. Chairman. It has been almost three years since I last appeared before this committee on railroad safety issues. These 36 months have been historic in their own way--because by any criteria, the last three years have been the safest 36 months in the nearly 100 years that the federal government has had safety oversight over American railroading.

In 1985, record lows were achieved in every major category where comparisons have historically been made to gauge railroad safety trends. The number of accidents, accident ratio, percentage of employee workplace injuries, and fatalities both in railroad operations and at grade crossings were the lowest ever recorded. Equally important is the fact that 1985's accomplishments represented continuation of a trend--a trend that began with the coming of deregulation seven years ago. These are the numbers; they speak for themselves.

Raw accident numbers in 1985 were down 70 percent from the peak pre-Staggers year of 1978. Accident rate--a more reliable indicator than raw numbers--declined more than 60 percent over the same period.

Rail related fatalities are down 37 percent, and grade crossing fatalities down 48 percent from their 1976 peak. At a time when workplace injury rates are rising in many industries, our 1985 average of 8.6 per 200,000 hours worked was the lowest ever recorded, a 31 percent improvement from the last pre-Staggers year of 1979.

Because there is a ninety day reporting period, we do not yet have complete figures for 1986. However, the data compiled for the first 10 months of last year makes it abundantly clear that 1986 will surpass 1985 as the safest year in the history of American railroading.

Preliminary figures for 1986 indicate that reportable accidents fell 21.3 percent below the record year of 1985. Track related accidents declined 25.5 percent, equipment accidents 22.9 percent, and human factor accidents 19 percent. Grade crossing accidents fell 7.6 percent. Employee workplace injuries declined 25.1 percent, and grade crossing injuries fell 7.8 percent. In one important category statistics did not improve--employee fatalities associated with train movements, where there were 26 in 1986 compared to 23 in 1985. This is still, however, a substantial improvement over the 39 in 1983, and 77 in the last pre-Staggers year.

Overall, the 1986 safety numbers are remarkable figures--no other mode of transportation approaches the improvement in railroad safety achieved over this decade. And that improvement was not a matter of chance.

Although this committee will undoubtedly hear railroad labor and railroad management attack one another--and the Federal Railroad Administration (FRA)--in the course of this morning's testimony, the fact is that both labor and management have contributed substantially to this improvement with a renewed commitment to safety in their daily operations.

But in all candor, the contributions of management, labor and federal safety officers have not been the major cause of improvement in railroad safety. The major factor is a piece of legislation--the Staggers Rail Act of 1980, which partially deregulated the industry.

The Staggers Act of 1980 gave the railroad industry something it had not had in decades--positive cash flow. And railroads have used that cash flow to reshape their infrastructure into a safer system, as well as a more efficient one. The industry's annual investment in roadbed and structures has tripled in the seven years since Staggers. Post-Staggers capital investment now exceeds $12 billion, and it shows on every bottom line--in better service, stronger companies, and improved safety performance.

Having given the Staggers Act full credit for its accomplishments, I also believe that the improvement in railroad accident statistics unquestionably reflects an increasingly effective regulatory enforcement program at the federal level. That program centers on three elements:

- the agency's safety regulatory authority,
- research and development efforts to support that authority, and
- a compliance program which blends on-site inspections with more comprehensive system safety assessments of individual carriers.

Over the past 3 years, the Federal Railroad Administration has concluded more major regulatory--and in some cases deregulatory--proceedings than in any similar period in its history. Our inspector force--at 325--is at an all time high. The number of on-site inspections performed by those inspectors has increased in virtually every category since I was last before this committee, and as Exhibit A attached to this testimony illustrates, on-site inspections are also at their highest levels in the agency's history. Over the same 3 year period, FRA inspectors have completed comprehensive system assessments of 9 major carriers, and limited assessments of 58 others. And the safety numbers reflect it.

A brief review of the agency's key regulatory actions in 1985 will place some perspective on the direction of our regulatory program.

- Alcohol and Drug Rule:

  FRA has issued final regulations to combat alcohol and drug use in the railroad industry. These regulations were accompanied by initiation of a national program of education, counselling and treatment--Operation: Redblock--which now covers more than half of all employees in the railroad workplace. Unfortunately, we have been forced to wage an 18 month legal battle with the Railway Labor Executive's Association (RLEA) to keep that rule in effect. Although the rule is in fact in place today, its effective date was delayed for more than three months by the ongoing litigation, and as recently as January 9--five days after the Chase, Maryland accident--RLEA filed new documents before the Ninth Circuit Court of Appeals in support of its previous request to bar all reasonable cause and post-accident testing.

- Use of Telemetry Devices for Intermediate Power Brake Tests

  FRA issued a series of regulations authorizing the use of modern telemetry devices to monitor railroad braking systems--in lieu of the antiquated system of manual inspections that prevailed in the industry until 1985. The manual brake test is effective, but can only be performed when the train is standing still. Telemetry devices give the engineers the capacity to monitor the functioning of their braking systems at all times--whether the train is moving or stationary.

- Blue Flag Protection

  FRA added a new form of protection for employees performing pre-departure inspection of rear-end markers.

- Communications

  On January 27, FRA commenced a major safety inquiry on communications in the railroad industry. The inquiry covers topics ranging from effective radio communications to satellite technology and automatic train control.

- Grade Crossing Safety

  Finally, FRA conducted two days of public hearings on grade crossing safety. The purpose of those hearings was to elicit comments from all interested parties on how public and private efforts can be more effectively channeled to reduce grade crossing fatalities. Subsequent to those hearings, FRA issued a 32 page report summarizing its findings and outlining a series of new safety initiatives. A copy of that report has been submitted to this committee for review and consideration.

The targeting of FRA resources is not a matter of chance. At the conclusion of each calendar year, the agency prepares and implements a national inspection plan. Using such factors as traffic volumes, accident histories, passenger loadings and hazardous material movements, the NIP sets forth detailed instructions on the conduct of inspections, manpower utilization, and goals and priorities for each region. Beginning with calendar year 1987, the agency is also utilizing a resource allocation model to ensure proper geographic and substantive distribution of the inspector force. I will submit to this committee for review both the current National Inspection Plan (NIP) and FRA's safety inspector staffing study. These documents will give you a better sense of how the prioritization process works in practice.

We expect to maintain at least the level of on-site inspections reflected in last years numbers during the current year. We will also, in 1987, conduct full system assessments of three railroads--Conrail, the Soo-Milwaukee, and a commuter carrier yet to be designated. Those assessments will be supplemented by a special followup assessment on SEPTA.

Regulatory efforts over the next year will be fourfold:

- First, both in timing and priority, is FRA's broad based reevaluation of communication practices in the railroad industry. Three days of public hearings were concluded in this proceeding last month, and we are now in the open docket period.

- FRA has established a team of senior inspectors, headed by Frank Bridges of our Denver office, to perform a 10 month analysis of railroad dispatching practices. That analysis will focus on issues ranging from training to operating practices, workload, and stress. It is our intention to hold public hearings on these issues when the Bridges group has completed and compiled a data base.

- We will commence a formal inquiry on safety issues stemming from the construction and equipping of the locomotive cab. Considerable background work has been completed on that proceeding, and it will formally commence upon completion of the communications inquiry.

- Finally, we are re-examining decisions made in the 1970's on the use of automatic train control by freight trains operating in the Northeast Corridor. Between 1977 and 1983, both FRA and National Transportation Safety Board (NTSB) considered recommending that freight and commuter trains operating on the Corridor be equipped with receiver units that would enable them to utilize the ATC transmission structure incorporated in the Northeast Corridor roadbeds. For a variety of reasons, both agencies drew back from those recommendations. I believe that issue needs to be re-examined, and we will review it--and take whatever action proves necessary--in the year ahead.

Like the inspection priorities, these regulatory priorities are not a matter of chance. We recognize that resources available for safety enforcement are finite--both in the public and private sector. And the regulatory decisions we make have an enormous influence over where the industry will allocate those resources. In a very real sense, safety is the ultimate cost benefit issue, and a safety dollar spent on the fourth, fifth, or sixth most productive option, at the expense of a project with greater safety impact, is an opportunity wasted, and possibly forever wasted. The real challenge before this or any other safety agency is the need to tailor its regulatory program to direct scarce resources to the area of greatest real world impact.

At FRA, we take that challenge very seriously. We assess on an annual basis the relative merits of our regulatory options, and pursue them in what we believe, in our best judgment, to be the order of public benefit priority. We also review existing regulations, to ensure that those overtaken by time and technology are altered or eliminated. And we vigorously resist efforts to alter those regulatory priorities toward areas of lesser cost benefit and public safety impact. This committee has traditionally taken the lead in supporting us in those efforts, and we appreciate that.

This approach has produced solid progress throughout the 80's. But there is also a challenge in these achievements. Today's progress is the standard by which next year's performance will be judged. And each percentage improvement in accident statistics is geometrically harder to generate than the one which preceded it. As accident rates have fallen, the pattern of causation in railroad accidents has gradually shifted. Equipment related accidents, such as track and signal failures, have declined sharply. Track related accidents alone, for example, have fallen more than 70 percent in the 1980's. At the same time, human performance accidents have become an increasing percentage of all accidents, and a dominant cause of the truly serious incidents. We are now past the era in which we could generate dramatic improvements in safety performance with a few more track inspections, or the investment of additional dollars in eliminating deferred maintenance. The challenges of the future will be far more complex. If we are going to keep the accident rate moving downward, we need to develop mechanisms to deal with the complex issues that arise from human performance accidents.

Those mechanisms must come from two distinct directions--better enforcement authority for this agency, and advanced technologies that minimize both the opportunities for tampering, and the consequences of human error.

On the first issue, most people are surprised to learn that FRA's enforcement authority extends only to railroad companies. Unlike the FAA, FRA has no direct enforcement authority over railroad employees. And that lack of authority is a serious problem in an industry where human performance is becoming a dominant factor in the truly serious accidents.

It is a simple fact, Mr. Chairman, that safety is a shared responsibility between management and labor, between individuals and corporate entities. A statute granting enforcement authority over half that equation can never be more than half effective. Accountability must extend beyond the amorphous corporate entity to the individuals who run the railroads as it does in the FAA and under existing hazardous material safety statutes..

Where we have the power to regulate, in areas like track, equipment and signals, FRA has produced spectacular improvement in accident ratios. We can produce similar results in the human factor area if we have the authority to act.

In some instances, the Alcohol and Drug Rule for example, we have attempted to reach individual conduct through the "backdoor" by requiring companies to place conduct restrictions on their own employees. Whether this rule will survive judicial scrutiny remains to be seen. At best, however, this is a backdoor approach to regulation, the best we can do under our current authority. And it leaves FRA entirely dependent on each company's willingness (and ability) to act against an individual who violates federal safety standards. That ability is often restrained by complex and time-consuming grievance procedures.

The Federal Aviation Administration (FAA) has made effective use of its authority to suspend the certification of aviation personnel where circumstances justify suspension. The simple existence of that authority is a deterrent to employee misconduct. We lack that authority, and we lack that deterrent. It's absence is a serious impediment to combatting human factor accidents.

For example, the lack of clear authority to proceed directly against an offending employee, for example, through fine or suspension, would be a practical barrier to an effective licensing program even if we concluded the concept had merit from a safety policy perspective.

This lack of authority also stands as an obstacle to addressing what may be the most serious safety problem now confronting this industry--the tampering and disabling of safety devices by operating employees.

In the Chase, Maryland accident, a basic warning device designed to ensure crew attention in a stopping emergency was found to be taped and intentionally disabled. This is not an isolated incident. During the week of January 12, an FRA dragnet of the five major yards on the Northeast Corridor discovered six locomotives with whistles disabled in an identical manner--notwithstanding the fact that considerable advance warning of the inspection was given. In succeeding weeks, FRA inspectors discovered three more Amtrak locomotives with equipment ranging from alerting devices to automatic train stopping devices disabled. Last week, the Commission of Inquiry into the tragic Canadian rail disaster at Hinton issued its final report--concluding that the disabling of the train's automatic stopping device was a likely contributing cause of the accident. Given the ease with which this type of tampering can be concealed, I fear that what we have discovered may truly be the tip of the iceberg.

This is an extremely serious problem. The best safety devices we can design will have little impact if they are disabled by the very people they are designed to protect--railroad employees. And our ability to deal with this issue is materially impaired by the fact that we can sanction only railroad companies. We can take no direct action against the employees, even if we catch them in the act.

We have submitted legislation which would close this loophole by granting FRA enforcement authority over both companies and individuals with safety sensitive functions. That legislation would also strengthen FRA's civil penalty authority over railroad companies. Adoption of that legislation is the first element in an effective assault on human factor accidents.

The second element is technology. While technological progress has come to the railroad industry on numerous fronts since the Staggers Act became law, present research and development efforts differ from their predecessors in two respects:

- first, there is new emphasis on producing equipment less susceptible to employee tampering. While any device requiring employee response is susceptible to tampering in some degree, the speed control and alerting devices of the future will render tampering more difficult and more easily detectable. FRA is playing a role in this effort by underwriting the development of a passive alerting device, one which senses movement rather than requiring it. In addition to being more difficult to disable, the passive alerter eliminates many of the features engineers find objectionable in today's "deadman devices." It will, in short, minimize both the capacity and the incentive to tamper.

- Second, the emphasis of tomorrow's technology will increasingly focus on minimizing opportunities for human error by restricting an individual's ability to ignore or disobey a signal or a dispatcher's order; they will increasingly emphasize human judgement as a fail safe mechanism for the functioning of mechanical devices, rather than the reverse emphasis which is prevalent in today's technologies.

There are a number of automated control devices in existence today, devices ranging from peddle alerters to speed control and automatic train control systems. They represent today's state-of-the-art, but it is a rapidly changing state. Because they are "hardware" devices, they suffer from three disadvantages relative to the successor systems that will come on-line toward the end of this decade--extreme cost, susceptability to tampering, and reactive operation. Today's automatic train control systems, for example, would be prohibitively expensive if installed systemwide anywhere outside the Northeast Corridor. Roadbed transmission systems alone cost approximately $240,000 per mile to install on double track line, plus $35,000 to $50,000 per locomotive for the receiver units. The cost of retrofitting the entire Conrail system alone with full ATC capacity would equal or exceed the company's networth. In addition to the tampering issues previously discussed, the device is reactive in the sense that its operation is triggered by the running of the signal. It is not designed to proactively ensure that a train crew follows proper "slow down" procedures in advance of the signal to make certain the train can stop without resorting to emergency braking application.

For nearly a decade, Canadian and American railroads have worked in partnership to develop a more advanced and practical system--Advanced Train Control Systems (ATCS). Through the use of on-board microprocessors, computer software and roadbed transponders, ATCS will constrain the operation of a train within parameters established by a central dispatcher. It is a proactive system, one which limits operating discretion on a continuing basis rather than responding on an emergency basis only after a signal has been violated. Its installation cost is a fraction of current automatic train control technology. And while the engineer will retain--and certainly should retain--authority to take emergency action, any actions to override will be immediately communicated to central dispatching, so they cannot go undetected.

ATCS is not a "Buck Rogers" technology with undefinable implementation deadlines. The first prototype system will be installed before the end of next year.

Of course, implementing new technology has often been a formidable challenge in the railroad industry. The cash starvation inflicting railroad carriers prior to adoption of the Staggers Act was a barrier to technological advancement in the industry for a quarter century. And because better technologies are often less labor intensive, labor-management agreements to implement developing technology have often been difficult to obtain.

This is where FRA has played, and can continue to play, a decisive role. This agency used its regulatory authority one year ago to clear a path for the use of modern telemetry devices in the performance of railroad power brake tests. We are now reviewing the state of the industry's communications technology. It is a role we will continue to play in the future, to ensure that the art of railroading is in fact the state-of-the art in railroad safety technology.

EXHIBIT A

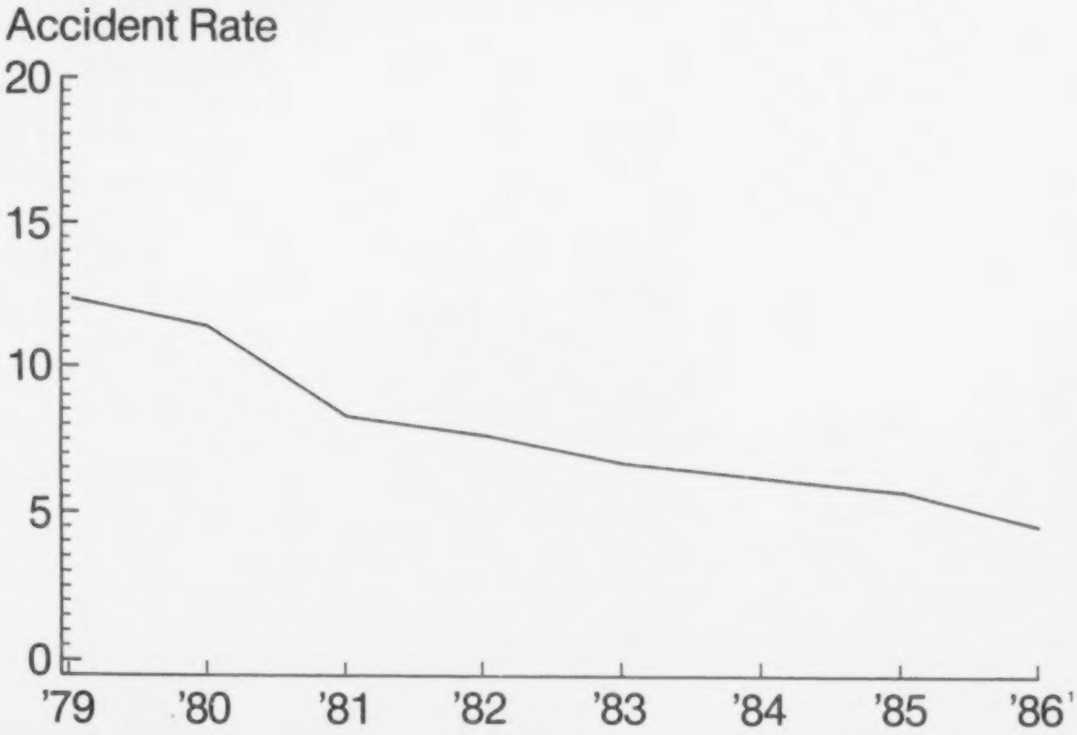
Number of Inspectors/Number of Inspections

	1983	1984	1985	1986[1]
Number of Inspectors	305	320	319	325
Operating Practice Inspections	10,603	13,200	12,889	13,092
Hazardous Materials Inspections	6,493	8,684	8,653	8,594
Tank Cars Inspected	42,309	56,760	61,404	72,454
Mechanical Units Inspected	1,080,112	1,083,230	1,052,077	1,063,580
Signal Units Inspected	80,938	86,445	76,329	86,405
Track Miles Inspected	396,555	392,368	410,969	418,927

[1] 11½ Month Figures: Approx. 95% of 1986 Total

Industry Accidents Per Million Train Miles

All Causes



[1] Projected

Railroad Safety — 1986

	% Change 1983 — 1986	*% Change 1979 — 1986*	*% Change 1985 — 1986*
Accidents	– 31.8	– 72.9	– 21.3
Accident Rate	– 32.4	– 63.2	– 20.4
Track/Equipment Accidents	– 37.6	– 76.4	– 24.7
Workplace Injuries	– 25.0	– 65.9	– 23.5
Grade Crossing Accidents	– 9.2	– 48.0	– 6.0
Train Movement Fatalities	– 33.3	– 58.1	+ 13.0

U.S. Department
of Transportation
Federal Railroad
Administration

400 Seventh St., S.W.
Washington, D.C. 20590

SUMMARY OF POST-ACCIDENT TESTING EVENTS
(49 CFR Part 219, Subpart C)

February 10, 1986 thru January 15, 1987

Qualifying Events	175
Total Employees Sampled	759

Number of Sample Sets w/ Positive (Urine, Blood, or Both):

Alcohol	9 (1.2%)
Illicit Drugs (Marijuana, Cocaine, Methamphetamine)	29 (3.8%)
Other Controlled Substances	14 (1.8%)
Total Controlled Substances	43 (5.7%)1/

NOTES:

1. Figures add. No sample sets were positive for both a licit controlled substance (C.S.) and an illicit C.S, or a C.S. and alcohol. Some sample sets were positive for more than one licit C.S. or more than one illict C.S., so the total number of positive findings is higher than displayed. All percentages do not add due to rounding.

2. FRA is reviewing all related information in connection with its informal safety inquiry on the first year of implementation of the alcohol/drug rule.

3. Data are not conclusive of alcohol/drug role in individual accidents, except as may be developed through an accident investigation. In some cases, drug levels are consistent with off-duty use. Other qualifying factors may apply. Data should therefore be treated with caution.

4. Approximately half of the urine samples were also tested for the presence of pheniramines (antihistamines present in many patent cold medications) as a part of a research effort to determine the effect of these substances on fitness. Of samples tested, 7% were positive. The FRA rule does not restrict use of pheniramines.

Post Accident Testing Events With Positive Test Results
(Alcohol and Illicit Drugs)
(February 10, 1986, through January 15, 1987)

Railroad	Date	Location	Type Accident	Position of Employee	Substance found and level (per ml)	Time of Accident	Time of Sample Collection
Chessie	3-23-86	N. Mountain, WV	Impact/ Inj.	Engineer	THC-COOH 4.7 ng (U)	6:55 p	2:05 a
Amtrak	4-21-86	Baltimore, MD	Impact/ Inj.	Brakeman	THC-COOH 154 ng (U)	1:55 p	7:30 p
BN	4-26-86	Galesburg, IL	Fatality (T.I.)	Roadmaster (Fatality)	Alcohol .034 (B & U)	9:00 p	12:00 M
UP	4-27-86	Crickett, AR	Fatality (T.I.)	Track Patrolman (Fatality)	Alcohol (.019 B, .136 U)	8:00 a	6:10 p
CNW	5-03-86	Des Moine, IA	Impact/ Inj.	Brakeman	THC-COOH 111 ng (U)	3:30 a	9:30 a
BN	5-03-86	Reno Jct., WY	$500,000+	Brakeman (1)	Benzo. 3.0 ug/ml (U)	5:10 p	12:35 a
				Brakeman (2)	Benzo. 3.0 ug/ml (U)	5:10 p	12:35 a
BN	6-01-86	Alliance, NE	$500,000+	Brakeman	Alcohol (.035 B, .022 U)	3:50 a	7:50 a
UP	6-15-86	Topeka, KS	$500,000+	Brakeman	THC-COOH 292.5 ng/ml (U)	11:40 p	6:40 a
SBD	6-20-86	Buckhead, GA	$500,000+	Brakeman	THC-COOH 55.5 ng (U)	3:45 p	7:35 p
SBD	6-27-86	Coleman, AL	$500,000+	Engineer	Cocaine 1.3 ug/ml (U) Benzo. 10 ug (U)	3:20 p	10:45 p
Metro North	6-30-86	White Plains, NY	Impact/ Dam.	Engineer	THC-COOH 290 ng (U)	7:27 p	11:20 p
CR	7-10-86	Elyria, OH	Fatality (T.I.)	Brakeman	THC-COOH 80 ng (U)	7:15 a	1:00 p

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(U) Urine level
(B) Whole blood level
(P) Plasma level
THC-COOH - Delta- 9 -tetrahydrocannabinol - 9 -carboxylic acid ("carboxy THC"), metabolite of marijuana
Benzo. - Benzoylecgonine, principal metabolite of cocaine
T. I. - Train Incident

Feb. 6, 1987

UP	7-10-86	North Platte, NE	Fatality	Dispatcher	THC-COOH 107 ng (U)	7:15 a	10:34 a
ATSF	7-10-86	Crescent, OK	Impact/ Dam.	Brakeman	THC-COOH 300 ng (U) Benzo. 5.3 ug (U)	8:55 a	12:00 p
KCS	7-17-86	Sulphur Sprgs., TX	Impact/ Inj.	Brakeman	THC-COOH 43 ng (U)	8:20 a	1:00 p
CR	7-21-86	Rome, NY	Fatality (T.I.)	Trackman (Fatality)	Alcohol (.034 B, .088 U)	9:00 a	
GTW	7-30-86	Haslett, MI	$500,000+	Brakeman	Benzo. 11.5 (U)	5:40 a	11:00 a
CR	8-27-86	Graham, OH	Impact/ Inj.	Conductor	THC-COOH 60 ng. (U)	3:20 a	6:10 a
GTW	8-28-86	Flint, MI	Impact/ Dam.	Fireman	Benzo. 10 ug. (U)	3:05 a	7:15 a
				Conductor	Alcohol (.047 B, .127 U)	3:05 a	7:50 a
				Brakeman	Alcohol (.038 B, .000 U)	3:05 a	7:15 a
BRC	10-12-86	Chicago, IL	Impact/ Dam.	Brakeman	Alcohol (.014 B, .035 U)	6:20 a	11:35 a
				Brakeman	THC-COOH 38 ng. (U) Benzo. 6 ug (U)	6:20 a	11:25 a
				Retarder Operator	THC-COOH 96 ng. (U) Benzo. 25.3 ug (U)	6:20 a	9:35 a
CR	10-19-86	Elkhart, IN	Impact/ Inj.	Brakeman	THC-COOH 50 ng (U)	4:25 a	7:30 a
MKT	11-5-86	Otterville, MO	$500,000+	Brakeman	THC-COOH 102 ng (U) Benzo. 35 ug (U)	3:25 a	8:50 a
ATSF	11-20-86	Portales, NM	Impact/ Dam.	Brakeman	THC-COOH 66 ng. (U)	1:20 a	6:30 a
UP	11-22-86	Portland, OR	HM/Evac.	Conductor (1)	THC-COOH 98 ng (U) Methamphetamine 2.3 ug (U)	1:45 a	5:45 a
				Conductor (2)	THC-COOH 232 ng (U)	1:45 a	8:00 a
BN	11-23-86	Columbus, MT	$500,000+	Conductor	Alcohol .007 (U)	5:20 p	2:15 a
UP	12-08-86	Cheyenne, WY	Impact/ Dam.	Brakeman	THC-COOH 51 ng (U)	10:50 a	1:15 a
SEPTA	12-10-86	Phila. PA	Impact/ Inj.	Engineer	Benzo. 2.6 ug (U)	5:30 p	7:45 p
				Ticket Col.(1)	Benzo. 1.5 ug (U) THC-COOH 92 ng (U); THC-COOH 32 (P)	5:30 p	8:20 p
				Ticket Col.(2)	THC-COOH 168 ng (U); THC-COOH 14 (P)	5:30 p	7:30 p

Amtrak/ CR	1-4-87	Chase, MD	Fatality	Engineer	THC-COOH 67 ng (U); THC-COOH 42 ng (P)	1:30 p	4:00 p
				Brakeman	THC-COOH 87 ng (U); THC-COOH 13 ng (P)	1:30 p	9:50 p
CSX	1-13-87	Ravenna, OH	Impact/ Dam.	Engineer	Alcohol .013 (B), .033 (U)	10:20 a	1:35 p

FINAL RULE ELEMENTS

1. "FEDERAL RULE G"
2. IMPROVED ACCIDENT REPORTING
3. POST-ACCIDENT TESTING
4. PRE-EMPLOYMENT DRUG SCREENS
5. REASONABLE CAUSE TESTING AUTHORITY
6. VOLUNTARY REFERRAL & "BYPASS"

"FEDERAL RULE G"

1. COVERS ALL HOURS OF SERVICE POSITIONS
2. PROHIBITS ON-THE-JOB USE OF, POSSESSION OF, IMPAIRMENT BY
    - Alcohol
    - Controlled substances
3. ALCOHOL PER SE IMPAIRMENT LEVEL .04 PERCENT
4. EXCEPTION FOR PRESCRIBED DRUGS SUBJECT TO EACH RAILROAD'S OWN CONTROL SYSTEM

NOTE:

—Rule sets minimum standard

—Statute does not authorize monetary penalties directly against employees; Railroads will enforce through disciplinary systems

IMPROVED ACCIDENT REPORTING

REQUIRES SPECIFIC INQUIRY INTO ALCOHOL / DRUG INVOLVEMENT IN ALL REPORTABLE TRAIN ACCIDENTS

FRA ALSO REVISING REPORTING GUIDE TO REQUIRE

- Better breakdown of alcohol / drug involvement in train accidents
- Data on alcohol / drug involvement in personal injuries

VIII.

POST-ACCIDENT TESTING

MANDATORY FOR

1. **MAJOR TRAIN ACCIDENT WITH**
   - *Fatality;*
   - *Haz Mat release with injury from product or evacuation; or*
   - *Damage $500,000*
2. **IMPACT ACCIDENT (COLLISION) WITH**
   - Injury; or
   - Damage $50,000
3. **EMPLOYEE FATALITY IN TRAIN INCIDENT**

EXCEPTIONS:

- Rail / highway grade crossing accidents
- Impact accident or employee fatality where employee's involvement in cause can be positively excluded at the scene

NINE (9) MONTH DISQUALIFICATION FOR REFUSAL OF TEST

PRE-EMPLOYMENT DRUG SCREENS

REQUIRED OF ALL FINAL APPLICANTS FOR HOURS OF SERVICE POSITIONS

URINE TAKEN IN CONNECTION WITH PRE-EMPLOYMENT PHYSICAL IS SCREENED FOR DRUGS OF ABUSE

POSITIVES MUST BE CONFIRMED BY A SECOND TESTING METHOD

APPLICANT MUST RECEIVE NOTICE BEFORE SAMPLE IS TAKEN (BUT NOT 7 DAYS BEFORE)

RECORD RETENTION FOR FRA ENFORCEMENT PURPOSES (BUT REPORTING REQUIREMENT DELETED)

REASONABLE CAUSE TESTING AUTHORITY

1. TEST AUTHORIZED:
   BREATH (Alcohol) URINE (Alcohol or Drugs)
2. REASONABLE CAUSE:
   - Reasonable suspicion of impairment based on specific, personal observations; supervisor can articulate.
     - For urine test, two supervisors must concur; if drug impairment is suspected, at least one must have received special training in signs of drug intoxication.
   - *Employee involved in reportable accident/incident and supervisor reasonably suspects that employee's acts or omissions contributed to the occurrence or severity of the accident/incident.*
   - *Employee has been directly involved in one or more enumerated rule violations (such as passing absolute restrictive signal, failure to stop short of derail, issuance of train order that does not protect train).*

3. *EMPLOYEE HAS RIGHT TO BLOOD TEST AFTER ANY POSITIVE BREATH TEST OR AT TIME OF URINE COLLECTION (EMPLOYEE OPTION).*

4. URINE IMPAIRMENT PRESUMPTION—PERMISSIVE AND REBUTTABLE; EMPLOYEES MUST BE PLACED ON NOTICE.

5. QUALITY CONTROL REQUIREMENTS SPECIFIED FOR TESTS.
   - Evidential breath test only by specially trained and qualified operator on approved and calibrated device.
     - Two breath samples separated by 15 minutes.
     - Results under .02 percent deemed negative (Account limitations of technology).
   - Urine safeguards.
     - Collected at independent medical facility.
     - Positive screens must be confirmed by method specific to substance [illegible]
     - [illegible]
     - [illegible]

NOTE: [illegible]

"BYPASS" RULE
(VOLUNTARY REFERRAL)

A. VOLUNTARY REFERRAL POLICY

- Employee may self-refer, or be referred by co-worker or union rep
- One-time right
- Employee must undertake rehabilitation as directed by Employee Assistance Program counselor
- Job protected
- Employee must self-refer during non-duty hours or while unimpaired

B. CO-WORKER REPORT POLICY

- Operates where impaired employee is on duty
- One-time right
- Co-worker can turn employee in without fear employee will be dismissed
- Employee must undertake rehabilitation as directed by Employee Assistance Program counselor
- Job protected

VOLUNTARY PROGRAMS (OPERATION: RED BLOCK)

VOLUNTARY PROGRAMS EMPHASIZE AWARENESS, EDUCATION AND TREATMENT FOR DRUG AND ALCOHOL DEPENDENT RAILROAD EMPLOYEES AS A MEANS TO *PREVENT* ON-THE-JOB USE.

- Evaluate employee's problem
- Counseling and rehabilitation
- Follow-up support

EMPLOYEE COOPERATION IS ENCOURAGED BY PROVIDING TREATMENT / REHABILITATION FOR FIRST-TIME VIOLATORS VS. AUTOMATIC DISMISSAL.

- By-pass agreements, which substitute treatment for discipline, in place on many railroads.
- Other railroads have company policies which provide for rehabilitation and return to work.

OPERATION: RED BLOCK, A PREVENTION PROGRAM DEVELOPED BY UTU AND BLE ON THE UNION PACIFIC. FIVE-POINT PROGRAM TO INVOLVE EMPLOYEES IN THE SOLUTION:

- Union policy statement against on-the-job use.
- By-pass agreement for co-worker or self referrals.
- Companion agreement for referral by supervisor.
- Union-led prevention committees.
- Information and awareness campaign.

FRA, RAILROADS, UNION HELD FIVE VOLUNTARY PREVENTION SEMINARS IN EARLY 1985 TO INTRODUCE "RED BLOCK" CONCEPT TO MORE THAN 1,000 RAILROAD AND UNION OFFICIALS.

- Most railroads have established voluntary referral and treatment programs.
- Many are adopting "Red Block" concept of involving employees in prevention effort.

NTSB RECOMMENDATIONS OF MARCH 7, 1983

1. FEDERAL PROHIBITION WITH ABSTINENCE PERIOD
2. POST-ACCIDENT TOXICOLOGICAL TESTING
3. FULL REPORTING OF ALCOHOL/DRUG INVOLVEMENT IN ACCIDENTS/INCIDENTS

PROPOSALS NOT ADOPTED

PRE-DUTY ABSTINENCE PERIOD

- Unworkable as a Federal Regulation in an industry without regular shifts; amounts to a rule of prohibition
- Rule as written accomplishes objectives of abstinence period; workers must report fit and able (Rule G), and industry receives testing authority
- FRA must enforce against railroads, but railroads cannot be expected to supervise pre-duty conduct

TOXICOLOGICAL TESTS AFTER RAIL / HIGHWAY GRADE CROSSING ACCIDENTS

- Hearing record failed to provide sufficient linkage between alcohol / drug use and grade crossing accidents
- Impractical because of large number of events
- Not a high yield category for testing
- Motorists at fault in most cases; rail stopping distances often exceed sight distance

UNIVERSAL BYPASS

RANDOM TESTING

US Department
of Transportation
**Federal Railroad
Administration**

Office of the
Administrator

400 Seventh Street, S.W.
Washington, D.C. 20590

January 20, 1987

The Honorable James E. Burnett, Jr.
Chairman
National Transportation Safety Board
800 Independence Avenue SW
Washington D.C. 20594

Dear Chairman Burnett:

As you know, Automatic Train Control (ATC) has been a functioning part of Northeast Corridor operations for a number of years. The ATC system requires installation of both a transmission system in the roadbed, and ATC devices in all locomotives operating over the roadbed transmission network. Roadbed transmission units have been installed on the Corridor from Washington, D.C. to Boston; virtually all Amtrak power units operating on the Corridor have now been equipped with ATC devices. The Amtrak locomotive destroyed in the collision of Sunday, January 4, 1987, was ATC-equipped.

In your January 15, 1987 letter, you reiterated your recommendation that the Federal Railroad Administration ...

> "Promulgate regulations to require an adequate backup system for main line freight trains that will insure that a train is controlled as required by the signal system in the event that the engineer fails to do so." (i.e., Automatic Train Control)

You concluded that "... there was sufficient evidence without the need to make additional inquiries and studies for FRA to take timely regulatory action." While we respect your views and appreciate your intentions, FRA must question this recommendation for the same reason we previously questioned it -- simple practicality.

ATC roadbed infrastructure costs approximately $240,000 per mile to install on double track main line, $160,000 per mile on single track line. There are approximately 20,000 miles of multiple-track, signalled main line in the United States and 53,000 miles of single track main line. The cost of simply installing the infrastructure required by your recommendation exceeds $13.3 billion. Equipping only 10,000 locomotives of the roughly 23,000 locomotives in the nation's fleet would cost an additional $500 million. The total cost of your recommendation -- at least $13.8 billion -- approaches the net worth of the nation's main line railroads. Moreover, this calculation, and your proposal, fail to take into account the numerous commuter trains that share trackage with Amtrak and the nation's freight railroads. Signal compliance by commuter operators is at least as important as compliance by freight railroads. Finally, the ATC system, even at such unrealistic cost levels, addresses only one of the various accident exposures that can arise in the railroad operating environment.

The Federal Railroad Administration takes very seriously NTSB's recommendations. But FRA has very different responsibilities. Our regulations are not recommendations; they have the force of law. We must consider the realities of compliance in a real world environment, weigh cost-benefit issues, and steer the industry's safety investment to the areas which will have the greatest marginal impact in improving its safety performance. The fact that we have helped cut the accident rate in the railroad industry in half over the past decade is testimony to the effectiveness of FRA's safety program.

A recommendation with costs approaching the net worth of the industry itself is clearly not a real world option.

There may, however, be alternatives worth investigation.

The most expensive part of the ATC system -- the roadbed transmission infrastructure -- is in place on Northeast Corridor trackage from Washington, D.C. to Boston. Because of FRA's efforts, much of that system has been upgraded. Since this is the area of the country with the heaviest passenger volume, and the area in which passenger trains operate at the highest authorized speeds, we believe there is merit in exploring the feasibility and potential safety impact of requiring that non-Amtrak locomotives operating on this segment of the Corridor be equipped with receiver units. Conrail's freight volumes have declined substantially since this option was discussed in the mid-1970's, and we believe the issue is one of a number of options worth revisiting in our post-accident assessment. We intend to do so.

Having financed the modernization of ATC on the Northeast Corridor, we are thoroughly familiar with its advantages and its limitations. And I must caution the Board that the system is not a panacea.

ATC cannot prevent an accident that involves a false proceed signal indication, since the signal system triggers the ATC. It addresses one, but only one, of the several accident situations that can arise in a railroad operating environment -- the case in which a train crew fails to respond to warning devices and runs an operating signal. That is an extremely rare occurrence, although its consequences can be severe. The system is susceptible to tampering, and freight operators have questioned whether its effectiveness in stopping short, light weight passenger trains necessarily implies that it would be equally safe or effective in stopping heavy, long haul freights. Moreover, automatic train control does not guarantee that a train will, in fact, stop short of a signal. It slows the train to 20 m.p.h., and the crew is free to run through that signal at that speed if it chooses to do so. While some of these questions are susceptible to resolution or remedial design, they are factors to be weighed in judging what is a complex and difficult issue.

Our views on the so-called "dead man's control" device have not changed since our last correspondence. By voluntary agreement with FRA, Amtrak has installed dead man installation in all passenger locomotives operating with one man in the cab. However, there continue to be serious questions about the technology. Although 60 percent of all over-the-road locomotives now have dead man control in one form or another, it is the most unpopular safety device on the train and the most easily (and frequently) disabled. FRA redirected all interested parties to study this and other issues relevant to locomotive cab safety and to monitor the state-of-the-art in equipment evolution. That effort will form the basis of a formal safety inquiry on locomotive cab safety, which we intend to commence upon completion of the current communications rulemaking.[1/] There have been real advances in technology, particularly with the latest Pulse System, that may address the reliability problems that have plagued this equipment from its inception. FRA is funding research into passive, unobtrusive alerter devices. Three initial proposals were reviewed by the Locomotive Control

Cab Committee and it recommended further work on a scanning device using ultrasonic sensors. Device is tamperproof and requires no extraordinary action by engineer. We will evaluate these issues in the course of the cab safety proceeding and, of course, we will seek your counsel at that time.

We appreciate the Board's concern, and will continue to keep it apprised as we evaluate this and other issues stemming from the recent Conrail-Amtrak collision. We will also, as we have in the past, invite NTSB testimony in all inquiries and rulemaking proceedings we may initiate on these issues.

Yours very truly,

John H. Riley
Administrator

1/ Two and one-half years ago, FRA established four major regulatory objectives--a comprehensive Alcohol and Drug Rule, a rulemaking on rear end telemetry devices and remote control rear end warning systems, a communication inquiry and a locomotive cab inquiry. That process remains on schedule, with alcohol and drug and telemetry rulemakings complete, and the communication inquiry now in process. Of course, the Agency has pursued other, less consequential proceedings while these major rulemakings were in process.

Mr. **McMillen** [presiding]. Thank you. It looks like I'm the lone soldier here today. I appreciate your testimony.

I have some questions with regard to the level of enforcement.

Mr. **Riley**. Sure.

Mr. **McMillen**. Some of the things that have been brought to my attention are that in fact there have been more deaths and injuries in 1986 than in 1985. We all know that there are many ways to make statistics appear more favorable.

Mr. **Riley**. Sure.

Mr. **McMillen**. Is that true?

Mr. **Riley**. Mr. Chairman, when I was sitting in the audience, I was looking at the Labor statement, too, and some of the numbers are so far off from what we've got, I've got to go back and figure out where they came from. But I will give you one example, which I think isolates the difference between our numbers, which are the complete numbers and have to be reported to Congress once a year, and the numbers you will find in that statement.

You will note that on one of the pages they state—say, well, we had 878 injuries last year and that's 100 percent increase. In reality, there were about 39,000 injuries in the rail workplace last year, not 878. And I know where that number came from. What they did was to take one small subcategory, about 4 percent of all accidents, and pull that one out to represent injuries, and in reality the workplace injuries went down last year about 23 percent overall. And the category they chose, the category that measures people adjacent to a railroad site, who might have had to resort to some kind of medical treatment.

They took a 10-month period ending just after the Miamisburg, Ohio accident, where you had 307 people go in to have their eyes washed from phosphorous. That's what's showing up in that one category. This is the total number. This is not one subcategory.

On the others, I noticed they say deaths from 500 to 900. There actually were 823 deaths in 1985. So I don't know where they got that number. I'll look at them and file a statement with the committee on it.

Mr. **McMillen**. Another statement that I read was that it was mentioned that there may be inspectors needed, in fact, that it would take three to five years for a given inspector to cover their territory. Do you find—do you think that that's true?

Mr. **Riley**. There are two answers to that, Mr. Chairman. We did an allocation study that was based on a statistical formula. We brought some experts in to help us to analyze our allocations. I'll file that with the committee. You can look at it.

What we do is we do not invest—inspect every single site every month, every week or every year. What we do is a representative sample, much as FAA does. In some of the larger regions in the West, if you wanted to go to every small switching ground, it might take several years. But in fact we do not try to get to sites which switch five or less cars every year. And I think the best answer to that lies in the numbers to my left. Very clearly, those equipment-related accidents, which are what you find in these inspections, are down by three quarters in the decade.

Mr. McMillen. The bottom line, in the last five years, what has been the number of penalties that you have placed on the railroad industry?

Mr. Riley. We prosecute about 5,000 cases a year, on the average. I will get you the exact number. And so you don't—there's another statistic in that. That's what I don't want to fall trap to, Mr. Chairman. I appreciate the opportunity to raise that here.

Our inspectors in the field write two types of citations. They write violations, and they write exceptions. The violations are violations of our regulations that involve safety impact, and the inspectors in the field recommend that we prosecute civil fines on those cases.

We in fact seek civil penalties in more than 99 percent of all cases where our inspectors recommend that we do so, about 5,000 a year.

Now on the other side of the ledger, many of our regulations are very technical. For example, a deviation of an eighth of an inch in track camber is out of sync with the regs. It's not a safety problem. You couldn't even notice it if you drove over it, but it's our practice to write an informational exception on every one of those, so the companies are aware of them and they can see early what goes on. We write a couple of hundred thousand of those a year. And when people say that we sue out in a civil suit sense, only a small percentage of the violations, they are playing games with those two numbers.

We in fact prosecute more than 99 percent of all cases that our inspectors ask us to prosecute. We do not intend to use our inspectors' resources on these exception cases. That's the equivalent of trying to make the state trooper arrest and prosecute everybody going 56 in a—in a—you know, whatever the zone—55 zone.

Mr. McMillen. One of the concerns that I'm sure my colleague from Maryland and I share is the—what is being done in the freight areas. In some testimony I was reading about the tremendous amount of hazardous waste, and propane gas, and all the things that are being carried.

How much of your budget, of your R&D budget, is devoted to developing less expensive automatic train control systems that may be applied to, you know, the freight systems, and what can we do in those areas to ensure safety and security?

One of my concerns is that obviously we have just suffered a terrible tragedy, but the tragedy could be much worse if a full tank of propane gas fell over the countryside.

Mr. Riley. Well, that's really two questions. Let me answer them both, because I think they're both good ones.

On the hazardous materials, I don't think you can find a better example of where aggressive action in our regulatory program has produced improvement in safety.

Back in the 1970s, we were hitting 20 to 22 fatalities a year from hazardous material spills. In the early 1980s, we began to regulate very tightly the construction of haz mat cars. It's a process that's hardly finished, but it's certainly one that's begun.

We have required them to be retrofitted with head shields and shelf couplers. We are still, as a matter of fact, researching the next generation of car improvement.

As a consequence, we were getting 20 fatalities a year as late as 1979—we have not had a single fatality in the 1980s in the hazardous materials spill. And that's a good example of where regulation does in fact make a difference.

Now we prioritize our enforcement efforts based on a number of facts: the movement of hazardous materials and passenger movements are the two primary factors.

The point I guess I'd make is that passenger and freight share every mile of track in this country, and I have discovered that it is impossible to segment one area from the other. To the extent you seek safe operating practices and better track conditions, you are systematically approaching safety.

Automatic train control. Good question. Let me respond to it. And I want to make the record clear on one point. In the late 1970s, both NTSB and FRA moved toward requiring automatic train control on the Northeast Corridor. NTSB made the recommendation in 1977. My predecessor opened a proceeding in 1980. In 1982, after getting uniform opposition from every party—and I mean every single party from Conrail through SEPTA to Labor opposed our proceeding, NTSB backed off its position and issued a statement, a letter saying that Amtrak's operating rules were an effective alternative. We did exactly the same thing. Now with the benefit of hindsight that our predecessors didn't have, I think we can consider that those decisions may not have been the right decisions. I think they ought to be reopened. But what—the point I want to make on the record is that this is not a case—yes, while it is true that NTSB recommended it in '72 and '82, in between those two recommendations, they withdrew it and they reinstated it four days after the Chase accident. And they were right in doing that. And we did exactly the same thing. And I think that we all ought to come up and just say that we were probably wrong on that one and we ought to straighten it out.

Let me tell you a little bit about ATC. We spent millions to put in that ATC transmission system, to modernize it in the Northeast Corridor. I know the system very well. Contrary to popular belief, ATC doesn't necessarily stop a train. If the engineer doesn't respond at all, it will stop the train. If he does respond in any way—and that's normally the case, hit the pedal, shut the whistle off, whatever has to be done—it slows the train to 20 miles an hour, but allows it to continue. And the one thing that's haunted me about this Chase accident is think what would happen if that train had gone through that signal at 20 miles an hour. The accident would have taken place on the bridge.

I am inclined to think that ATC might have avoided this accident. But you can't say that with certainty. It could also have worsened it.

Now, but it is a good system. You will not see ATC installed anywhere in this country but where it's installed today. It costs $240,000 a mile to install the transmission system, on double track, $160,000 on single track; anywhere between $35 and $50,000 a car. We know those numbers because we bought it for Amtrak, and we have gone back to the manufacturers to cross-check them.

However, where the system is in fact in place, the transmission system, in the ground, as it is today in the Northeast Corridor, I think it's a very legitimate question why everybody operating on that corridor shouldn't have the receiver so they can use it.

I can tell you just about exactly what it would cost. It would cost about $30 to $35 million to buy the receivers. SEPTA would have to equip 311 of its commuter trains. Conrail would have to equip about 200. Providence—they say 400. I would say between two and four. My number assumes the worst case scenario. But if you compare that to shifting track off—freight off the corridor where the costs are in the $3.5 billion range, I think there's a clear cost-benefit advantage. We will do a rulemaking proceeding on that this year and reopen the issue.

One question that has been raised by the freight carriers, merits mention. Automatic train control system is designed to force a lightweight passenger train that doesn't have slack action problems to a quick stop. The freight operators have argued that if you use it on a freight train, the chance that it will derail the train and turn a minor accident into a serious one are very great.

I think there's validity to the argument, but I think that this programming of the system can be altered, so that that would not in fact occur. I think that's a solvable problem, Mr. Chairman, so I'd—that's sort of the ball park on ATC, as I see it today.

I think around the country, ATCS will be on line before one could even get an ATC system built. But in the Northeast Corridor, I think it would be foolish not to use this system that's already in the ground.

Mr. McMillen. Thank you very much. Does my colleague from Maryland have any questions?

Mrs. Bentley. Thank you.

I am glad, Mr. Chairman, that we in Maryland really stick together——

Mr. McMillen. *Are so concerned.*

Mrs. Bentley. I just want to say I am happy to see Mr. Riley here, and that on the occasion of the Chase incident, he was on the scene. We talked a great deal there, and we have talked since on the situation.

Let me ask you, would you discuss the FRA response to the NTSB's recommendations on crashworthiness?

Mr. Riley. I will, Ms.—Madam—I guess it's Madam Ranking Member at this point?

Mrs. Bentley. No.

Mr. Riley. If I can ask Phil Olekszyk to pull out three charts, I can show it to you.

The NTSB made a number of basically sound recommendations. I want to emphasize that there is a fundamental difference between the two agencies. The NTSB's job is to recommend a problem area that needs solution. It is our responsibility then to devise the solution.

Now we have not proceeded by regulation in this area. We have proceeded by agreement. Why is that? Because we own the company, Amtrak. They are the only intercity carrier in the country, and having a central control of the board of directors, we can simply implement by fiat what you would otherwise do by regulation. And I think the only difference between us and NTSB on this is whether to do it by regulation or not. And I just don't see any sense in regulating ourselves. I think that's the only difference. I obviously would have to defer to NTSB on that.

But let me—we have over the period of the last 10 years worked with Amtrak management to make a series of changes in these cars to make them more crashworthy. Because of those changes, the cars now have crash posts, which believe it or not, they did not have 10 years ago. Isn't that an amazing thought?

We have retrofitted all of the seats on low-level cars to include new locking devices to keep them from flying out of the floor when an accident occurs. We have worked with Amtrak to develop a prototype luggage restraint system which is now in in-service testing, and a microwave restraint system.

The night of the accident, I was at Chase, Maryland. I remember it so well. I will never forget that scene. And the next morning several of our inspectors with camera—or that night, actually—and I walked through the surviving cars, took pictures of the interior so we could chronicle what happened. We hadn't had a high speed accident on Amtrak in this decade. So we could assess the impact of the changes made.

The charts on my left illustrate what we found and what we learned. What we learned were several things. In the nine surviving cars, out of 692 seats, only nine broke loose from their mooring. So I do believe that the retrofit on the locking device did in fact solve that problem. But we discovered there's a new problem now. Because with the seats staying in place, the cushions from the seats now tend to fly out over the train. More than half of the seats lost their cushions. And while obviously being hit by a cushion is not the same as being hit by a metal seat, that is still a serious problem, because cushions gathered in the aisles and made it more difficult to escape the train.

So having solved the problem of the seats, I think we are now going to have to look at how to solve the problem of the cushions.

As to the luggage, you know, common sense tells you that that's a safety exposure. We've had very few accidents directly attributable to it, but you can't be in a train without realizing that that can be an exposure.

What we found in this accident was that the luggage tended to block the aisles down near the exit ramps. We made a modification in the prototype luggage restraint system based on what we learned at Chase.

In addition to the elastic restrainers that Graham Claytor has described, we've put strong plastic bars about every 13 to 14 feet in the luggage rack so the luggage cannot move back and forth laterally on impact.

Finally, on microwave ovens. Unfortunately these trains were among the 40 percent that hadn't had the microwave retrofit at the time of the accident. A little more than half of them had been retrofitted since we agreed with Amtrak since summer how to get it done in a way that would work. We did have an injury in this case, apparently, from a flying microwave. So I don't know that we could learn much about the effectiveness of our retrofit in this accident. But that is kind of a compendium of what we have learned from the accident scene, what we found in the trains.

I'll be glad to send a smaller version if we can make one for your records.

Mrs. **Bentley**. Now when you talk about the luggage at the top and Mr. Claytor said we have to—whatever we put up there, we have to have it so that people will still——

Mr. **Riley**. People can use it.

Mrs. **Bentley** [continuing]. Put their luggage up. Somewhere in my recent travels in the past year, I have seen a web type fitting up at the top of a luggage rack that didn't seem so onerous that you wouldn't try to put bags up there. Are you working on anything of that type?

Mr. **Riley**. Yes. Let me tell you about the——

Mrs. **Bentley**. Besides the lateral?

Mr. **Riley**. Yes. Let me tell you about the three designs. We looked initially at the kind of luggage compartment that an airplane has, and then rejected that idea, for a couple of reasons. Airplanes have strict limitations on the size of the carry-on luggage. One of the benefits of trains is that you don't have that.

Secondly, the jostling and shaking in a train can spring those open. You don't have that in an airplane. Having decided that wouldn't work, we then moved to develop a design, and so did Amtrak. Amtrak's design was described to you. Our design was similar to what you have discussed. Our design would use a plastic webbing coming down from the ceiling. It would latch in an inverse manner over a hook which is pointed down, so that at the point of impact, if the luggage moved out, it would drive the webbing up into the hook.

Now the disadvantage of our—the advantage of our system is that it's stronger than Amtrak's. The disadvantage of it is someone's got to latch that hook, and if they don't, the system won't work. Amtrak's system, while not quite as strong as ours, doesn't require any human response. So we have decided to go with in-service testing of their system first, and if their system proves acceptable to the public, we will probably implement it. Failing that, we will go back to our system.

Unfortunately, we can't test the—you know, in the freight environment where there are so many surplus freight cars, we go out and we wreck cars to see how well these safety systems work. Where Amtrak has a critical shortage of passenger cars—they really do, they can't serve all their demand—we can't go and wreck a few of their cars. So it's a little bit more difficult here.

Mrs. **Bentley**. The FRA has a final rule on alcohol and drug abuse by railroad employees.

Mr. **Riley**. Yes.

Mrs. **Bentley**. What factors were taken into consideration in the rulemaking?

Mr. **Riley**. All right. And as with Mr. Burnett, this was my highest priority when I came here. In fact, the very first thing I did the morning I was sworn in was convene a meeting to begin writing the rule.

NTSB had made three recommendations to FRA:

First, that we do a federal rule prohibiting alcohol and drug use on the railroads, which we agree with. Now, realistically, that's largely symbolic, because all railroads have rules already. The problem is lack of enforcement authority.

Second, NTSB had criticized FRA reporting requirements, and I think with justification, because they only required us to report—we only required railroads to report when in fact they had found alcohol or drug to be a probable cause. We now require every element.

Finally, they asked for post-accident testing, which we agreed with.

We decided, however, that we had to go beyond the NTSB recommendations because, while they were all sound and clearly they were out ahead on this issue, they were purely reactive recommendations. They dealt with accident investigation, dealt with how one determined after an accident whether alcohol abuse was involved.

In an attempt to be proactive, we put three additional pieces in rule.

The first was mandatory pre-employment drug screening. Simple concept. You ought to show up clean the day of your pre-employment physical if you want a job in public transportation.

Second, we gave the companies authority to do reasonable cause testing, and that's been in use for a year, and I think it's been effective.

Finally, we created a bypass program to give troubled employees an incentive to seek help. An employee has a one-time right to come forward and say, "I've got a problem." He will get treatment. His job will be waiting for him. He will retain his seniority. And we think that that is a proactive element of the rule.

Now why didn't we do random testing? Very simple reason. We didn't do random testing because it's not at all clear that under our authority we have the authority to do it. Our lawyers told us we had a 95 percent chance of sustaining a reasonable cause testing rule. Despite that, I have spent 18 months in court litigating with Larry Mann over the sustainability of our testing rule. It was enjoined for three months, and five days after the Chase, Maryland accident, RLEA filed new papers out at the Ninth Circuit, supporting their previous motion to strike down the rule.

That's what we got with a rule where we felt we had 95 percent chance of sustainability. We feel our ability to go to randomized testing, because of the nature of the way our authority is written, is much, much more questionable. And I believe that we need to get the statutory authority to go forward, even if we can make a random testing rule stick. And if Congress doesn't give us the authority, we are going to try it on our own. Even if we can make it stick, we're going to be in court for the remaining part of this decade trying to do it. Because I have learned that everything we have attempted to do in the alcohol and drug area has been met with litigation and delay. And Chase is an example of how important it is to have testing so you know what happened. We've got to go beyond it now.

Mrs. Bentley. How about on—testing, not on a random basis, but of all employees who are involved in safety operations on the railroad, on a regular basis?

Mr. Riley. The advantage of random testing over regular testing is this. When you do regular testing once a year, that employee knows that for the rest of the year, he's free to do whatever he wants to do, and that's why we think that you have to combine these things.

Now, the railroads are testing in conjunction with their annual physicals. In addition to that, the ability to use reasonable cause testing in a clear case and the ability to use randomized testing, I think, gives you a full program.

Now, we know that reasonable cause testing has been effective because for the first time, we know exactly what the data statistics are in the industry. We had five percent of railroad employees fail our alcohol and drug test last year: 3.8 percent for drugs, 1.2 percent for alcohol. In past years, while we couldn't do testing, we knew from autopsies that in 13 to 16 percent of all autopsies we were finding alcohol or drugs present, using that same class today, we are finding it in five, so it made a difference.

Chase is an example of why you have to have random testing, because in the alcohol area, you can pretty much spot a symptom. It is just not reasonable to expect even a trained railroad supervisor to spot the symptoms of drug abuse. They are not that apparent.

I think we have gotten down as far as we can go with reasonable cause testing. We did not move precipitously in this area. I can assure you there are no ideologues on this issue at FRA. I have become progressively convinced in the last year that we can't get that number down below four or five percent unless we can go beyond the human ability to recognize symptoms. We have just gone as far as we can go with what we have.

Mrs. **Bentley**. Are you familiar with Operation Red Block?

Mr. **Riley**. Madam Chairman, when I came to FRA, I instructed our Agency to put whatever resources were necessary into taking Operation Red Block from a very sound union/management program on the Union Pacific and taking it nationwide. We have gone on around the rest of the country and I've spoken to more than 2,000 mid-management and labor officials on implementing that program. I support it. We supported it both financially and with our own efforts. A little more than half of the railroad employees in the country are covered by it. It should be 100 percent. I'm for it.

Mrs. **Bentley**. Do you think it is possible that it will become 100 percent?

Mr. **Riley**. Madam, it should become 100 percent. I can't think of a reason why a railroad would not enlist—I'm pleased to see that Amtrak signed a Red Block agreement last week. I might add while I'm here, if I can lobby a little bit, that Conrail has not. I think Conrail ought to be the next railroad to do a Red Block agreement.

Mrs. **Bentley**. Thank you, Mr. Chairman.

Mr. **McMillen**. Mr. Riley, I just have one last question, and that is why has the FRA not required that all trains be equipped with radio communication systems? I can't think that there would be anything more cost effective than that simple implementation, particularly in light of what happened at Chase and the inability of the Conrail radios to work.

Mr. RILEY. Mr. Chairman, I don't understand it either, why it hasn't been done. We commenced a proceeding, a regulatory proceeding on exactly that subject last October. When I came to FRA, there were 14 pending regulatory proceedings that were mid-process. My first priority was to complete those proceedings. We've done it. We've finished every one.

The first item on the top of my list of priorities was radios. We commenced that proceeding last year. We have already held our public hearings on it. We are now in the open docket stage. As I'm sure you know, I am forbidden by law to tell you what we are going to do during the open docket stage but if you have seen any of my comments on this in the past, it is amazing to me that we are on the borderline of the satellite communications age and the railroads are fully not in the radio age.

It isolates the problem because when I held three days of hearings on this in January, the railroad industry witnesses came up and opposed a radio rule on the argument that radios were simply redundant to other forms of testing. The labor witnesses got up and took the position that if radios were on the trains, they ought to be required to work, but it would be better if there weren't radios on the trains.

Mr. Chairman, one of the problems that you have to have in the position we are in is that you simply cannot attempt to cater to your constituencies. This Agency does not look to the railroads or to labor as its constituency. The public is our constituency. This is a clear example of where we have to answer that call.

I think I am one of the very few railroad administrators who did not come from management or labor. I represented shippers as a lawyer. I really think having been here that if you can't offend everybody in this job, then you aren't doing your job. We tried very hard to offend everyone. If there is anyone we have missed——

If I could add one thing in conclusion. I heard Mr. Claytor's comments on our fines. Obviously, I think they are justified. If any of the companies would like to take us to court, we have not lost a case in three years. We are ready to go.

On the labor side, it is unfortunate, but as I look back on the history of these safety hearings, the RLEA, who ought to be our primary source of information on safety, and I wish they could be, have come up year after year in hearing after hearing regardless of whether the Administrator is a Republican or a Democrat, a liberal or a conservative, whether the numbers were good or bad, and attack the FRA with rhetoric that is so consistent from year to year that a witness last week in the Senate called it the "rites of spring."

I suppose these are just traditional things that go on in the industry. I'm going to submit for the record, I won't take your time with it, the past quotes that go all the way back to the last two Democratic Administrators and the last two Republican Administrators. You will be amazed when you see them. They read exactly the way the testimony today does, irrespective of party, philosophy or performance.

[The information to be furnished follows:]

RLEA QUOTES

1978 Administrator Sullivan, Democrat/UTU witness J.R. Snyder

"The safety picture is the same as it has been for too long a period of time--it is bad. . . . Unfortunately, RLEA must now say to FRA--we told you so. . . .At no time were alternatives stated, not even [by] the FRA in most cases. . . .we've got a serious crisis in this country, with cities being blown up, employees being killed, and what we are trying to do is offer some solutions with our expertise in here."

(testimony to Senate Subcommittee on Surface Transportation on S. 2897 and 2898, April 21, 1978)

1980 Administrator Sullivan, Democrat/UTU witness J.R. Snyder

"It is unnecessary for us to go into great detail concerning the poor safety record of the nation's railroads. As you know accidents, injuries and deaths have been at a totally unacceptable level for too many years. . . . The past year to present has brought some of the worst, and most potentially dangerous accidents of all. . . . If the new safety revisions are any indication of FRA's plans for the future, the regulations for railroad safety enforcement are well on the way to becoming virtually meaningless. . . . As we have told you before, we do not think FRA is doing its job."

(House Subcommittee on Transporation & Commerce, March 25, 1980)

1981 Administrator Blanchette, Republican/UTU attorney Larry Mann

". . . the Federal Railroad Administration . . . stated that the Federal Railroad Administration's primary concern is that of safety. Well, your Honor, there is a whole history behind what the FRA has done and has not done. . . . FRA is still not doing its job. . . . To have an agency with the history of this agency--If this were the first time it happened, okay, you give them one, but this has been ever since they were created. They have done this time and again. We are studying. We are restudying."

(arguments before U.S. District Court in the District of Columbia, UTU v. Drew Lewis, et al., May 22, 1981, concerning whether Seaboard's new unlocking hook was illegal)

1983 Administrator Blanchette, Republican/RLEA attorney Larry Mann

"The facts show that during 1982 the defendants [FRA] failed to assess penalties in thousands of instances where FRA discovered statutory and regulatory violations. The facts also demonstrate that this abdication of enforcement responsibility has resulted in a substantial increase in injury on the railroads."

(Plaintiffs' Supplemental Memorandum in RLEA et al. v. Elizabeth Dole et al., October 3, 1983, concerning SSP)

Mr. RILEY. I think what we need to do in this industry frankly, Mr. Chairman, is move away from all that, on both the company and the labor side. It's time to stop viewing safety as a labor/management issue. It's not. It's a public service issue. We have made some progress but we have done the easy stuff. We have fixed the obvious problems, tracks, signals and equipment.

My successor is going to have a much tougher job in dealing with human factor accidents, because they are tough and everybody has an incentive to deny they occur.

Thank you.

Mr. MCMILLEN. Thank you very much.

One closing comment. If the human factor is so predominant today, estimated at 25 percent of the contributing factor in these accidents—there was a recommendation that maybe we ought to look at the GAO or the Office of Technology Assessment and really define the cause and effect of these accidents a little bit better.

What would be, just quickly, your thought on that, that proposal?

Mr. RILEY. Well, human factor accidents now comprise 31 percent of all accidents and they cause 70 percent of fatalities. That is really a shocking number. I do not pretend to understand all of the things that go into human factors. I don't believe that either we or certainly not GAO and probably not OTA have that capacity.

I would like us to reach out into the private sector, to people who really are experts in this field, to give us some advice. I think labor and management ought to jointly fund that study and without any clearance from anybody, I'll tell you, if labor and management would come to me with a proposal to do that study, I would summon my courage and walk over to OMB and suggest that we share in the funding of it, because I think it really ought to be done.

Mr. MCMILLEN. Thank you very much. We appreciate your time. I guess the next order of business is to pull together the panel of Mr. Snyder, Mr. Garner and Mr. Capon.

Mr. RILEY. Incidentally, on the last question raised by Mr. Glickman, I promised him I would answer it on the record for him. Let me do that.

I looked at that. I was concerned about it at first. I'm not any more. Let me tell you why. We don't get anything out of letting the employees keep that seniority. We do it entirely for the employee and for the union. What they have is a seniority right within the union. The way it works is, if they don't work for us any more and they bid on a job, that would put them ahead of some and behind others on the order in which they could bid the job.

The reason it doesn't concern me is the fact that the company doesn't have any discretion in hiring. They have to hire in straight order of seniority. Moreover, the company can't strip a man of his seniority nor can he yield it. There is no choice or human action involved.

We do not assign inspectors back to their own home districts. That's not the reason we don't do it. We don't do it because we don't want to get into personal relationship problems.

With six major carriers serving the whole country, seven, if there is no SF/SP merger, it is literally impossible not to put these people back somewhere where their old railroad operates.

I think we would be prepared to abide by whatever decision Congress made on that. We don't get anything out of it. I do think we almost never have someone leave FRA to go back to the railroads. It just rarely happens. I do think it is not unreasonable for the unions and the employees to ask for this benefit. I don't think it has affected the judgment at all.

Thank you.

Mr. **McMillen**. Thank you very much.

We appreciate your patience in staying with us today. First of all I would like to ask Mr. Snyder if he would like to make some comments with regard to the testimony you have heard thus far. We welcome you today.

You have submitted a written statement. If you have some comments that you would like to make in reference to the other testimony you have heard, go right ahead.

STATEMENTS OF JIM SNYDER, NATIONAL LEGISLATIVE DIRECTOR, UNITED TRANSPORTATION UNION; ELMER GARNER, RAILROAD SAFETY CONSULTANT; AND ROSS CAPON, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF RAILROAD PASSENGERS

Mr. **Snyder**. Mr. Chairman and members of the Committee and staff, it is indeed a pleasure to be here before you this afternoon on behalf of all the Railroad Brotherhoods. I'm Chairman of the Safety Committee for the Railroad Brotherhoods and have been for a number of years.

I have with me—we are a little different than the panel that just testified up here. We have the expertise from the grassroots, because we constantly monitor these safety problems on the railroad industry out there with our employees and our members.

Sitting at this table, you have over 100 years of experience. I have had the pleasure of being a conductor, brakeman, flagman, baggage master, just about everything. I have 45 years on the railroad.

This is really not an easy job. It's a constant job that we have to do out there to monitor the safety problems. We are constantly at work.

I'd like to briefly—the hour is getting late here—just briefly comment on the very serious accident out at Chase, Maryland, out in your state, Mr. Chairman.

Any way, we first of all want to say we do not condone, the Railroad Brotherhood, do not condone alcohol or drugs in any shape, fashion or form. We have constantly over the years worked against that. Unfortunately, they say this is the case out there.

After the investigations that have taken place here, we wholeheartedly support the National Transportation Safety Board in its testimony and its findings of the accident out there and its recommendations, which are very good, I think.

The automatic train control, for example. This is very interesting. I have seen it prevent many accidents.

Mr. Riley stated here—his facts don't conform with our facts. This was on most all the railroads for a large number of years. We had it all through the steam engines and even when the diesels came on we still had the automatic train control, and it worked very good.

In the late 1960's, early 1970's, the FRA petitioned and held hearings to discontinue this safety device. We had at that time opposed it. We had engineers and people out in the field that were constantly working on the railroad, from different railroads around the country and in different parts of the country that came up and testified. We thought we had a real good case. They said for economics and that type of thing and technological changes and all, so they discontinued that safety device.

In my personal opinion, my railroad experience, and I think Mr. Lindsey would also certainly back this up, if they had such a device out at Chase, Maryland on the Conrail engine, this accident would have been prevented, absolutely have been prevented. They did not have such a device.

We are recommending that this be done in the future, not only in the Northeast Corridor but all over the railroads. It's a good safety device. Back then, sure, it's going to cost money. $15 million, I understand, the accident would cost out in Maryland. I would certainly question Mr. Riley's figures about the cost of the automatic train control. Nevertheless, just a few accidents would pay for this.

The radio question, which he made some statements on that, Mr. Riley did. We have the radio question here which is a good source of communication. We are having all kinds of problems with it because of the upkeep, the type of radio equipment they have out there. Mr. Lindsey will probably want to comment on that in just a few minutes. When it is working properly and all this, it's a good thing.

We filed claims down there, filed a claim with the FRA down there to correct these—served on many panels down there—to make improvements. Before Mr. Riley was the fair haired boy on the block here, this experience you are looking at right here at this table, the 1970 Act, the Railway Safety Act, a lot of research and a lot of work went into that. We have been in on every congressional hearing. We have been on every authorization. We have been on every appropriation. We got that with the clear understanding that the FRA would adopt these safety rules and regulations to prevent these accidents and have a much safer railroad.

They did not do this. All you have to do is go back and have the staff go back and research why this happened. We can help you in this area, be glad to help you, on what has been done.

Mr. Riley says they want to cut out the states' part to play in this. They cut out the funds last year. Now Mr. Reagan and them, all of a sudden they want to put funds in and have the states participate even though that is not adequate. It was about three or four years before we even got any funds for the state, appearing before the various committees up here on the Hill.

All you have to do is look at what has been done. As I say, this is not easy. We have spent a lot of time and money and to come up here and see a bureaucrat appear before you—he ought to have been under oath. I wonder why he didn't bring Vanna White up here with these charts and all.

Evidently, they have two sets of figures, Mr. Chairman. You raise a question about those figures and their statistics, they come from the FRA, our research department, those figures in there. They are not blown out of proportion.

Mr. Mann and I would be glad to answer any questions in that area.

Another thing that hasn't been done, just briefly, if you look at H.R. 2372, hearings before the Commerce Committee and the Subcommittee and a full mark-up in the Full Committee, this was recommendations in our opinion that would promote safety and prevent further accidents. It was passed out of the Commerce Committee on the Floor of the House two years ago. It was unanimously passed; unanimously passed.

The Senate, when the House passed it, they incorporated it in the Senate version, which is only a straight authorization. Senate Bill 1080. The Senate Bill over there, those Senators left town last November and sat on it. The Chairman of the Committee over there wouldn't do anything on it. They had hearings on the Senate side.

Any way, highway cars. We have a lot of accidents. There is no regulation on those highway crossings out there. Number two, this would require the FRA to set up after hearings, reasonable rules and regulations. You have the public involved, you have all of us involved in it, that operate the trains.

Number three, the inspection of those trains. The inspection of those trains, after we have sat in and gave the railroads relief from a 500 mile inspection up to 1,000 miles, with the understanding those trains would be thoroughly inspected and reviewed before they went out of the terminal. This is not being complied with over the railroads.

What we are asking for is that we have the carmen and they have a four year apprenticeship to know all about the equipment so they could qualify and know a good inspection and what a proper inspection would be and the safety inspection on the trains. We are asking for that to be determined by the FRA. That's another one that is in the bill that passed.

The other is for control towers. We have wrecks our there where the control towerman is operating our trains out there and had very little experience. We are asking for a hearing on that so they can qualify just like an air controller, so they would be qualified and with some experience in what they are doing out there.

Look at the background of the railroads. They are working our people to death out there. They are violating the hours of service laws. They don't want to hire anybody. They are just working them to death out there, the stress and everything which you will see in this statement and I would appreciate it if the full statement would be incorporated in the record here.

The Amtrak question came up here. Mr. Claytor. We have had good response. We have all been working together trying to keep Amtrak going. They have put in safety devices. They have red marking devices on their trains in the Northeast Corridor. Mr. Riley and his gang, as to the Federal statutes requiring those markers and going through the Federal Register, they have just about taken the markings off. It ain't working. We have complaints every day. They are not enforcing the law.

Now he wants more enforcement, wants to place a fine on the engineer out there, a crewmember out there. Don't give him that. They aren't doing their job, regardless of statistics, they are not doing the job down there of what they are assigned to do by the law, so don't give them any more, unless they give us the authority to go into court, which we have asked them, we don't have standing in the court, where they don't administer the law set out, the regulations set out. If he will give us that, maybe we might consider giving him a little more enforcement.

That's primarily the main objection with it but others have been added to it. The engineers have a stress problem, being worked out there. That's been added. There are things we have added over in the Senate. These are primarily the things we have asked for. More inspectors; they have large territories. They can't cover their inspections. We have asked for that, spent a lot of time and money with our staff of people to handle these and to work with them, work with them.

Just this past year, we had a panel down there. We had a panel to kind of oversight things with the FRA. We went to a lot of trouble with all the crafts with this expertise, some of them here at this table, and spent a lot of time on it. After the report came out, they didn't even appear before the panel there.

We don't do this for the fun of it, Mr. Chairman. We don't want to fine the railroads. We are not trying to put them out of business. There are many ways we can help them work in a safer atmosphere.

I'm open to any questions. Just one thing here. I would like to add to our testimony. This is a letter from the Brotherhood of Railroad Signalmen dated February 24, 1987, which relates to the lack of technical training of signal employees on Amtrak. I'd like to make this a part of the record.

[The prepared statement of Mr. Snyder and attached letter follows:]

February 25, 1987

TESTIMONY OF J. R. SNYDER, RAILWAY LABOR EXECUTIVES' ASSOCIATION

BEFORE THE HOUSE SUBCOMMITTEE ON TRANSPORTATION, AVIATION AND MATERIALS HEARING ON RAIL SAFETY TECHNOLOGY

My name is J. R. Snyder. I am the National Legislative Director of the United Transportation Union. I am appearing today as Chairman of the Safety Committee of the Railway Labor Executives' Association. Accompanying me is Lawrence M. Mann, attorney for RLEA in this matter. The RLEA represents all the crafts of the railroad workers in this country, and the names of the constituent organizations are as follows:

American Railway & Airway Supervisors' Association, Division of BRAC
American Train Dispatchers Association
Brotherhood of Locomotive Engineers
Brotherhood of Maintenance of Way Employees
Brotherhood of Railroad Signalmen
Brotherhood of Railway, Airline, Steamship Clerks, Freight Handlers, Express and Station Employees
Brotherhood of Railway Carmen, Division of BRAC
Hotel Employees and Restaurant Employees International Union
International Association of Machinists and Aerospace Workers
International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers
International Brotherhood of Electrical Workers
International Brotherhood of Firemen and Oilers
International Longshoremen's Association
National Marine Engineers'Beneficial Association
Railroad Yardmasters of America, Department of UTU
Seafarers' International Union of North America
Sheet Metal Workers' International Association
Transport Workers Union of America
United Transportation

THE RECENT AMTRAK/CONRAIL COLLISION AT CHASE, MARYLAND

We realize that the Conrail/Accident on January 4 at Chase, Maryland, is paramount in your minds now in considering whether that accident could have been prevented by technological improvements. The issues arising out of that accident highlight a number of problems facing those of us who, over the years, have vigorously sought safe railroad transportation. I will attempt to deal with some of these issues in this testimony. Railway labor yields to no one in its endeavor to improve safe railroad operations.

The surrounding factors of the accident demonstrate that the Federal Railroad Administration continues to do nothing much more than public relations. Improved enforcement is needed on a continuing basis, not only after a catastrophe results.

We are particularly pleased with the first two recommendations by the NTSB, resulting from its investigation of the accident. The first recommendation is that all locomotives on the Northeast Corridor be equipped with an automatic train control device which will control the speed of the train automatically and stop the train in restricted territory if the engineer fails to respond to a signal. The RLEA vigorously opposed the removal by Conrail of these protective devices in the mid-1970's. However, the FRA approved Conrail's request to eliminate the devices.

In the Northeast Corridor, because of the heavy rail traffic, all locomotives should be equipped with automatic stopping devices. Such equipment could cause a train to stop automatically if it passes a restrictive signal. The Conrail locomotive was not equipped with such a lifesaving device. Even with the alleged employee error, such device would have prevented the Chase accident.

The second Board recommendation is the requirement of operable radios capable of train-to-train and train-to-fixed station communications. Operable radios are a long-standing problem, not only on the Northeast Corridor, but througout the country. This is another area where FRA has shut its eyes and let the railroads use defective and inoperative radio equipment in all phases of operations. RLEA has tried without success for years to correct this serious safety issue.

The accident also raises the question of whether false signals can occur. If so, what safety protections should be built-in to prevent a catastrophe. Last year there were 240 false clear signals reported in the U. S., which could have resulted in similar accidents. On Amtrak alone there were 15 false proceed signals. Even vigilant dispatcher supervision of the traffic may not prevent such accidents from resulting.

The alleged safety defects inside the Conrail locomotive is an example of a nationwide problem. Trains regularly are not being inspected by qualified employees. Rather, many railroads, including Conrail, are requiring operating crews, who are not adequately trained, to make the detailed initial terminal tests and inspections. Last year, the House unanimously passed a provision which would correct the dangerous practice by requiring all such tests and inspections to be performed by qualified employees who had been properly trained. The senate took no action on this legislation.

The design problems inside the Amtrak cars are another concern of which your Committee should be aware. On May 29, 1984, the FRA conducted hearings on the safety of passenger cars. At those hearings we presented a number of recommendations (some proposed also by the NTSB) to FRA. I am attaching a copy of my testimony for your information. As of this time, FRA still has not issued comprehensive rules to require a safe interior in passenger cars.

Now, I would like to summarize some other major rail safety problems in the country and to offer some suggestions on how they may be corrected.

STATISTICS

Approximately 10% of the employees are injured each year on the nation's railroads. There are over 1,000 total rail related fatalities annually and close to 7,000 rail highway grade crossing accidents. In addition, there are more than 3,000 train accidents not at crossings and nearly 30,000 incidents, most resulting in injuries and causing over 500 fatalities.

The FRA Administrator has mislead the Committee in some of the safety satistics cited to you. He only provided you with the accidents on the railroads. However, he did not inform you that based on the most recent statistics through 10 months of 1986 there were more deaths and injuries in 1986 compared with 1985. In fact there were 878 injuries in train incidents, a 108% increase in the number of injuries. In all types of accidents, injuries increased from 577 injuries to 1,027. Also there was an 11% increase in the number of deaths at rail highway grade crossings, from 459 to 508 for the same 10-month period. In other accidents/incidents there was an increase in the number of deaths.

Railway labor does not believe that these statistics reflect an acceptable level of safety on the nation's railroads. The deaths and injuries are not just statistics to RLEA. We reject any suggestion that these statistics could not be cut in half by vigilant enforcement by FRA. The FRA can take no credit for any statistical improvements over prior years because the agency really cannot show any positive enforcement effort. In 1982, the FRA implemented a System Safety Plan whereby safety violations discovered by the FRA inspectors would not be subject to citations and penalties as required by all the Federal railroad safety laws. We continue to be outraged at the way FRA administers the safety laws under the Plan. Only if the defect is not corrected within a time set by the inspector will the FRA consider it to be a penalty. Common sense dictates that the carriers no longer have any incentive to comply with the regulations. They simply can wait until a FRA inspector happens to discover a defect, and then make necessary repairs. Moreover, the safety inspectors are spread so thin throughout the country it is virtually impossible for them to follow up defects for many weeks.

The results of FRA's enforcement activity in 1985 under this so-called System Safety Plan demonstrates the effect of that policy. Very few cases ever are processed for violations by FRA. The sweatheart arrangement between FRA and the railroads must come to an end. We think this borders on criminal neglect and, hopefully, your Committee will undertake a thorough investigation of these practices. The 1985 enforcement efforts (the latest figures available) are shown below:

	Track	Hazardous Materials	Signal	Motive Power and Equipment	Operating Practices
Defects Discovered	107,587	10,268	9,477	150,979	3,134
Violation Reports	159	238	86	3,104	1,513
Percent	.15	2.3	.91	2	48

We have not been provided with the 1986 figures, but consistently the results are similar. I am attaching as an exhibit to my testimony a comparison of the enforcement statistics of FRA between 1979-1985.

Furthermore, the FRA is turning its collective head to increasingly widespread failures by the railroads to report accidents and incidents as required by law. RLEA has little confidence in the validity of the statistical data base. We have knowledge of many cases where the railroads simply keep injured employees on the payroll and do not report the accident or incident. Other situations involve blatant non-reporting even though the accident or incident is obvious.

A related issue is the continuing problem that the railroads do not identify the proper causes of accidents/incidents. We have brought this to FRA's attention many times but the FRA has done nothing to assure validity of the statistical information it receives from the railroads. Human error has been designated by the railroads on the accident reports as causing approximately 25% of the railroad accidents. There have been no systematic analysis of such accidents by FRA. The underlying causes should be determined so that appropriate measures can be taken to correct such errors if indeed human error caused a particular accident.

We urge your Committee to direct an independent investigation of the entire accident reporting procedures. Possibly, the Office of Technology Assessment or the General Accounting Office could be authorized to conduct the review.

INSPECTION FORCE

Funds are appropriated for 315 safety inspectors, exclusive of supervisors. They are classified as follow: 100 motive power and equipment, 54 operating practices, 88 track, 33 signal and train control, and 30 hazardous materials. With that staff FRA is required to inspect approximately 265,000 miles of track, 23,000 locomotives, 1.4 million freight cars and 120,000 miles of signal systems.

On the whole, the FRA safety inspectors are competent and hard working. However, because of instructions from the Regional Directors and the Washington officials, inspectors are not performing the duties demanded of their jobs. Also, in many cases their responsibilities are so broad that they cannot cover their complete territories. Nearly one-half of the Federal inspectors are generally unable to cover their territories. Some inspectors pointed out to the GAO that it would take them three to five years to cover their territories, and others acknowledge that some major facilities and inspection points had not been inspected by FRA in years.

EMPLOYEE STRESS AND FATIGUE

Studies are replete with showing the direct relationship between long hours, fatigue and the potential for accidents. As I pointed out, the railroads attribute human error with a high percentage of the causes of accidents. However, no direct information is required by FRA to determine in each accident how many hours the particular employees had worked during the previous 7 days. We feel that this is a critical issue in the locomotive where employees are being exposed to continuous noise, vibration, continued motion, heat and, in many cases, operating defective equipment. This is another area which needs prompt investigation.

RESEARCH AND DEVELOPMENT

RLEA does not think that the research and development funds are being wisely spent by FRA. The money is not being directed to the areas which are causing the greatest numbers of injuries or deaths. Most of the research money has been spent on equipment and track research. We are attaching a copy of the FRA's research programs during 1986. We question why highway grade crossing accident have received so little attention. In 1985, Congress approved $200,000 to support cooperative efforts to reduce accidents at grade crossings. This was again included in the FY 87 appropriation. Nevertheless, none of the FRA's specifically funded research projects in the past several years related to highway grade crossings. Overwhelmingly more accidents, deaths and injuries occur at crossings than anywhere else on the railroads. The FRA did hold public hearings in 1985 on grade crossings, published a report, and initiated a few demonstration projects. These actions are to be applauded. However, those initiatives by DOT are nothing but window dressing. An in-depth study should be undertaken to determine why each collision occurred. This, at a minimum, should include interviews of each driver of the motor vehicle involved and each crew member in the locomotive. Only by a systematic and comprehensive analysis of these accidents will there be a better understanding of why the vehicles proceeded into the path of a train, and insight provided as to how to reduce this unnecessary slaughter of humans at crossings.

MAINTENANCE, TESTING, AND INSPECTION STANDARDS FOR GRADE CROSSINGS

Grade crossing accidents continue to be the highest cause of casualties on the railroads. Based on the latest figures in 1985, deaths at rail-highway crossings increased last year over more than 17%. There were over 5,000 accidents at these crossings. The FRA Administrator in testimony last year pointed out that rail-highway grade crossings and trespasser related fatalities compromise over 90% of all railroad fatalities. Congressional financial support for upgrading crossings and greater public awareness of "Operation Lifesaver" has been effective in improving safety. However, that is not enough. There needs to be regular testing, inspection and maintenance of the crossings.

The federally funded traffic control systems at crossings have greatly improved the safety for the traveling public. Still, only about one-third of the public grade crossings have active devices such as bells, lights, or gates. The overwhelming majority of crossings are marked only with a cross buck sign. Many have no protection at all. The Department of Transportation, in earlier studies, pointed out that if 15,000 additional crossings were provided with improved protection, accidents costs would be reduced nearly three times that of the installation and maintenance costs of the improvement.

The ironic aspect of this critical safety area is that there are no Federal regulations requiring adequate maintenance, inspection and testing of grade crossings. The National Transportation Safety Board has been critical of DOT's failure to take corrective action against defective warning devices and poorly maintained grade crossings. In 1975 the Brotherhood of Railroad Signalmen and the Communication and Signal Division of the Association of American Railroads jointly prepared and recommended to FRA the adoption of minimum installations, inspection and maintenance regulations. Unfortunately, the FRA did not adopt the regulations because of opposition from a major carrier within the AAR, and the FRA's determination that there were few grade crossing accidents caused by malfunctioning warning devices. The FRA's reliance on the statistical data was misplaced for obvious reasons. Generally there are no investigations of defective crossings unless a death occurs, and there are no requirements for reporting malfunctioning crossing devices.

Moreover, the statistics upon which FRA relied were generated solely from accident reports submitted by the railroads. After a grade crossing accident has occurred, a railroad's potential exposure to liability is incentive enough for it to assert that the signal system was operating properly. Relying on the railroad industry's self-generated statistics is like placing the fox at the gate to guard the chicken coop. There are numerous ways in which a signal system may fail to operate and not be detected in post-accident investigation. We will be happy to provide you with the technical reasons why defects may not be acknowledged by a railroad in an investigation. It is simply illogical and unsafe that substantial sums of Federal money be spent on purchasing and installing grade crossing protection equipment, but there are no equivalent requirements for maintenance of the installed equipment.

QUALIFIED EMPLOYEES TO PERFORM INITIAL TERMINAL TESTS AND INSPECTION

After promulgating the liberalized amendments to the power brake rules in 1982, the Administrator, as well as the Associate Administrator for Safety, on numerous occasions stated that the new rules would be strictly enforced, and that FRA would use the full panoply of its legal remedies to achieve compliance. The new rules were intended to place great emphasis on the initial terminal tests and inspections by qualified employees. The Administrator stated that the maximum fine would be imposed for each violation. However, we feel we have been double-crossed both by FRA and the railroads. In the first place, the FRA has not required strict compliance with the regulations. Trains regularly leave terminals with little or no inspections, many contain defective cars, and in very few instances have the railroads been fined for their wholesale daily violations. Secondly, the railroads have used the new regulations as a basis for furloughing or reassigning qualified carmen, and requiring initial terminal tests and intermediate tests to be performed by train crews.

FRA states that its responsibilities are to see that the inspections and tests are performed in accordance with the regulatory standards, regardless of the craft of employees who perform them. We agree that the responsibility lies within the FRA's jurisdiction. However, this is where the FRA falls flat on its face. The FRA has been very effective in creating a huge smokescreen by its public relations. However, the agency has not fooled rail labor. The FRA has stated that train crews are used to perform inspection and tests, and this of course, is part of the misinformation. The trainmen aren't inspecting the trains in compliance with the regulations as Mr. Riley would have everyone believe. If they were, bad ordered cars would be shopped instead of allowing them to be kept running from one end of the railroad to the other.

Moreover, the train crews generally have not been given adequate training nor have they been instructed on the full responsibilities and demands of the federal laws, such as under the freight car safety standards or the hazardous materials requirements. Carmen are recognized as being qualified to perform the tests and inspections, and they have been given rigorous training by the carriers, before being permitted to perform tests and inspections. The effect of the FRA's shutting its eyes to obvious violations and the carriers' use of unqualified and untrained employees to perform all the tests and inspections that are required by federal law, have resulted in very dangerous train operations. It is obvious from anyone knowledgeable about this issue that the quality of the initial terminal tests and inspections and the intermediate inspections have significantly deteriorated, rather than improved as contemplated by the rule changes. Where no carmen are present, there are literally no inspections for hazardous materials violations or freight car standards violations. We have found that the equipment, overall, is in poor condition. It is beginning to show up in the statistical data, by equipment defects causing more and more injuries and deaths. The absence of proper initial terminal inspections presents further hazards to cities and towns through which these improperly inspected trains pass. A typical example of this overall problem involves an accident at Denver, Colorado, on April 3, 1983, on the Denver and Rio Grande Western Railroad. There a coupler on a box car broke and the car subsequently impacted with a tank car causing a nitric acid spill. The NTSB stated that contributing to the accident was the lack of federal regulatory inspection or an industry practice for a periodic inspection to detect defects in hidden car components. (NTSB Rept. No. RAR-85-10).

Therefore, we are proposing that only qualified personnel with proper training be permitted to perform the initial terminal tests and inspections, as well as the intermediate inspections, which will also make them available to perform the freight cars and hazardous materials inspections.

TRAINING AND WORK STANDARDS FOR TRAIN DISPATCHERS

Since 1985 there have been several catastrophic accidents caused in part by the inadequate training of dispatchers. At Congressional hearings on January 22, 1987, the Chairman of the NTSB testified that the train dispatcher's job is more demanding than air traffic controllers. In addition to equipment used by the dispatchers is becoming more sophisticated. However, the railroads are doing very little to teach the employees how to properly use the equipment, and newly hired dispatchers in particular are poorly trained. The House in its safety bill last year included an amendment which required the Secretary to conduct and complete an inquiry into whether training standards are needed for dispatching trains. The Secretary has done nothing to implement the intent of the House. Congress should not allow another year to go by without dispatchers being properly trained. Waiting another year for the interests of safety.

HAZARDOUS MATERIALS

Rail shipments of hazardous materials continue to plague the public. There have been numerous past accidents involving the release of toxic or flammable materials which have resulted in injuries, death, property damage, as well as mass evacuation. The FRA recently issued a final rule on required improvements in certain jumbo sized tank cars. The RLEA does not think that the new rulemaking promulgated on January 27, 1984, goes far enough.

There are approximately 10,000 to 15,000 small sized tank cars that carry the same products as the jumbo tank cars. These are much older than the jumbo tank cars and are not covered by the new regulation. See also NTSB Report No. RAR-85-10 at p. 10 where the Board stated that it is "concerned that the complete spectrum of DOT specification tank cars authorized to carry materials posing risks to public safety if punctured or otherwise breached was not addressed in the rule."

In addition, nuclear waste shipments are expected to increase significantly as nuclear power plants reach waste storage capacity. Previous fire tests on railroad nuclear waste containers have indicated that in some railroad fires, these containers can emit harmful radiation. Rail shipments of cryogenic materials are also expected to increase significantly. Many such materials are toxic and flammable but there are no requirements that the cars have fire protections. One particular hazard to the crews is that many of the materials used in the interiors of locomotive cabs and cabooses are highly flammable or generate toxic fumes when heated. Generally, these cabs have inadequate fire detection and subpressure systems.

SAFETY OF VEHICLES USED ON THE JOB

The safety of all types of vehicles used by railroad workers in employment needs to be addressed by Congress. There are too many accidents, injuries and even deaths attributable to unsafe motor vehicles used by rail employees on the job. The railway unions on a number of occasions have requested FRA to issue regulations to protect the workers in such vehicles, but the agency has not even conducted a hearing which deals with the subject matter. As with many of the safety issues, the FRA repeatedly fails to protect the safety of employees and we are left with no choice but to seek legislation forcing the FRA to act.

SAFETY OF MAINTENANCE OF WAY EMPLOYES

The safety protection of maintenance of way employees has never been the subject of federal legislation nor regulations. The maintenance of way workers have a high number of injuries per man hours worked than any other railroad craft. The time for their safety needs to be met is long overdue. Listed below are six (6) of the most critical safety areas facing maintenance of way employees, and where legislation is needed:

1. There should be standards for bridge safety equipment, such as nets, safety lines, and in some situations, the requirements for safe boats.

2. All bridges and trestles should have standards for safe walkways and handrails.

3. As previously mentioned, there should be safety standards for vehicles used by all employees at work. In particular, in vehicles used by maintenance of way employees, the workers should be completely protected by a separate compartment from tools and hazardous materials in the vehicle.

4. On-track equipment should not be insulated so as to activate signal and crossing apparatus.

5. There should be standardized blocking procedures in effect for work areas, and trains must be required to reduce speeds when passing a work area or when adjacent to one.

6. The safety procedures afforded to other crafts under the Hours of Service Act when campcars are required to be used should be provided to maintenance of way workers. In addition, when campcars are being used, the blue signal protection should be made applicable including the locking of the track at both ends.

A full analysis of the importance of each of these protections is set forth in an exhibit attached to the testimony.

END OF TRAIN DEVICES

On trains without cabooses many railroads utilize a battery operated telemetry device for measuring brake pipe pressure. The devise also has a light attached for purposes of satisfying the requirements of the warning lighted marker on the rear of trains. The batteries used by the railroads rarely stay charged and thereby fail to keep the lights in working condition during most trips. The United Transportation Union alone has filed thousands of complaints, and FRA has done little to require compliance with the regulations. We will lodge with the Committee examples of the types of safety problems encountered as a result of these common defects.

CONCLUSION

We appreciate the opportunity to provide you with our views on how railroad safety can be improved. The challenge is one all of us share and we hope your assistance will be such that FRA and the railroads will finally recognize the seriousness of these safety problems which exist on our nation's railroads.

INSPECTION DATA

April 9, 1986

	1979	1980	1981	1982	1983	1984	1985
Track:							
Number of inspections	7,500	10,256	14,052	15,087	17,166	17,387	19,679
Miles inspected	146,000	203,478	201,121	275,560	378,169	385,413	407,883
Records inspected	141,000	184,526	193,632	267,271	195,832	217,271	257,686
Defects recorded	101,000	116,123	129,458	141,157	104,458	97,706	107,587
Violation reports filed	370	315	292	60	66	129	159
Signal:							
Number of inspections	3,800	3,834	3,030	4,086	4,589	4,417	4,236
Units inspected	24,900	18,227	14,786	47,568	55,038	56,435	51,162
Records inspected	65,000	59,659	48,788	52,849	61,403	50,445	68,888
Defects recorded	9,900	9,588	3,614	8,729	9,906	10,300	9,477
Violation reports filed	300	290	86	62	74	83	86
Motive power and equipment:							
Number of inspections	12,000	16,409	19,758	19,353	21,543	21,571	21,750
Locomotives inspected	22,000	31,416	37,125	35,735	37,914	37,618	32,492
Cars inspected	380,000	683,040	805,369	913,278	1,042,106	1,042,260	997,620
Defects recorded	**	**	**	171,320	164,452	168,644	150,979
Violations filed	3,500	4,826	3,843	1,630	1,732	2,721	3,104
Operating practices:							
Number of inspections	3,070	3,465	10,440	7,533	10,593	13,118	12,599
Complaints received	657	662	290	302	261	329	238
Defects recorded	**	**	**	1,993	2,261	3,026	3,134
Violations filed	**	171	670	105	360	558	1,513
Hazardous Materials:							
Number of inspections	2,600	3,268	3,268	4,859	6,475	8,615	8,471
Tank cars inspected	15,900	19,010	26,580	52,175	42,071	53,881	60,265
Defects recorded	**	**	**	**	8,745	9,979	10,268
Violations settled	313	375	181	105	154	314	282
Settlement amount	$636,000	$986,770	$314,850	$277,300	$314,475	$491,150	$469,658

** FRA did not computerize this data until 1983, therefore, figures are not available.

Federal Railroad Administration

Office of Safety

Safety R&D Projects Completed in 1986

- Published the two-volume report "Development of Safety Criteria for Evaluating Concrete Tie Track in the Northeast Corridor." This report discusses the results of tests to determine the performance limitations of concrete tie track in the Northeast Corridor.

- At the Transportation Test Center, completed the third in a series of track buckling tests. These track buckling evaluations were done in curved and tangent wood tie track under dynamic (i.e., train) operating conditions.

- Utilizing the Facility for Accelerated Service Testing-High Tonnage Loop (FAST-HTL), the bolt hole crack growth experiment was completed. In general, bolt hole cracks grow slower than transverse fatigue defects but are much more susceptible to large impact loads from rail end mismatches.

- An assessment was completed of the SEPTA Silverliner IV fleet to determine the extent of defective roller bearing assemblies associated with the use of tubular axles. This problem had previously occurred on New York Metropolitan Transportation Authority M-2 cars and New Jersey Transit Arrow cars. The FRA research staff members provided technical support to the field enforcement effort to institute and implement countermeasures to prevent derailments due to bearing seizures. The Silverliner IV fleet operates at speeds approaching 100 mph in territory where other traffic operates at 125 mph.

- The final lubrication tests completed on the FAST-HTL have dramatically proven that lubrication can reduce rail wear, reduce corrugation development, and reduce wheel wear. Rail wear is reduced to the point where although the rail life is increased, fatigue becomes the most significant reason for rail removal. New tests on the FAST-HTL have begun to evaluate the rate of occurrence of rail flaws in well-lubricated track.

- Electromagnetic Acoustic Transducers (EMAT's) offer the potential for substantially improved rail flaw detection ability and productivity. They are able to induce new types of beams of ultrasonic energy in rail, and can do so without direct contact between the sensors and the rail, unlike present systems. A test program to prove the feasibility of using these sensors was completed in 1986, and a basic prototype system was successfully tested at the Transportation test Center.

o The results of a test of the track loading characteristics of various types of track geometry cars were analyzed and presented in 1986. The comparison was performed to determine how the varying loads applied by the various cars affected their ability to detect track hazards, since the cars typically measure the track as loaded only by the geometry car in use. Significant differences were found between the rail deflections measured by the cars, the maximum deflections caused by the cars themselves, and the maximum deflections caused by revenue locomotives and cars. These results have already led to design changes in the geometry cars operated by major North American railroads.

o The "Track Analyzer," an algorithm for analyzing and quantifying probable track safety performance, based on track geometry variations, was developed and submitted to interested industry representatives for evaluation.

o Perturbed track tests of a prototype articulated covered hopper car were conducted to determine dynamic safety performance characteristics in rock-and-roll, curving, hunting, and pitch and bounce regimes. The safety performance limits were analyzed and compared with those of a typical in-service rail car. A summary report and an economic evaluation are being prepared.

o A series of laboratory fatigue failure tests applicable to safety critical shapes and sections used in railcar construction were conducted. Previously undetermined data and stress-frequency diagrams were developed, to be entered into the AAR Manual of Standards and Recommended Practices for use in prediction of fatigue failure of railcar components. A report is being prepared.

o An analysis of the results of laboratory testing of two 100-ton covered hopper cars was completed utilizing data from the Vibration Test Unit at the Transportation Test Center. The dynamic responses of a 50-foot-0-inch, 4,427 cubic foot car, and a 57-foot-4-inch, 4,750 cubic foot car, were evaluated for derailment tendencies and modal characteristics at a variety of simulated track conditions as a basis for safety evaluation of other railcar configurations. A report has been issued.

o Chlorine Tank Car--Alternate Insulation Fire Testing final report published.

o Aluminum Tank Car--Fire testing on current and altenate insulation systems. Final report is in preparation.

o Analysis of Hazardous Material Tank Car Accident statistics. The final report is in prepartion.

o Puncture Testing of 1/10th and 1/5th scale model aluminum tank car heads using various mitigating materials--received final report.

o Hazardous material product identification--completed two Phase I Small Business Innovation Research Projects, one for a "sniffer" device, the other for a transponder device. The final reports have been received.

- Hazardous material classification criteria--analysis of multi-hazard aspects of 100 commodities--The final report is in draft and being reviewed.
- Completed prototype of hazardous materials monitor for identifying 25 commodities--prototype has been built.
- Completed scale model puncture tests on 1/5 scale chlorine tank car heads--full-scale and actual car tests to be performed.
- Completed simulated broken rail derailment tests on intermodal configurations for carrying hazardous materials--The final report is in preparation. The preliminary test reports have been received.
- Locomotive engineer data base--users manual being completed. A computerized system for capturing and maintaining data from locomotive engineers who train on the Research and Locomotive Evaluator/Simulator (RALES) for use in future research.
- RALES as a research and training tool--Final report is being written. This is a cost-shared project with the Illinois Central Gulf Railroad to: evaluate RALES as a research and training tool; develop measurable criteria for evaluating locomotive engineer performance; evaluate different training methods; and, improve the skills of the ICG engineers participating in the project.
- Emergency response guidelines--Final guidelines are being reviewed by the FRA. An effort with the Association of American Railroads to develop guidance to assist railroads in improving their preparedness to respond to accidents involving hazardous materials.

F A [illegible], Chairman
R. J. KILROY, Executive Secretary, Treasurer
O M BERGE, Vice Chairman

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RAILWAY LABOR BUILDING, 400 1st ST., N. W., WASHINGTON, D. C. 20001

May 29, 1984

TESTIMONY BY J. R. SNYDER, CHAIRMAN, SAFETY COMMITTEE,
RAILWAY LABOR EXECUTIVES ASSOCIATION ON FEDERAL
RAILROAD ADMINISTRATION'S SPECIAL SAFETY
INQUIRY FOR RAIL PASSENGER EQUIPMENT
DOCKET NO. RSSI-84-1; Notice 1

My name is J. R. Snyder. I am the National Legislative Director for the United Transportation Union. Today I am appearing as Chairman of the Safety Committee of the Railway Labor Executives Association (RLEA). Accompanying me is Lawrence M. Mann, attorney for RLEA in this matter.

RLEA submits there are many passenger car regulations which are needed. In general, these are in the areas of emergencies, maintenance and design, and environmental protection.

The biggest complaint by our members is that the passenger equipment is not being safely maintained. Also, FRA must address the problems of what measures need to be taken to prevent injuries and death in an emergency. In this connection the crashworthiness of certain types of passenger cars must be analyzed.

Some of the carriers have taken the position that there are too many different kinds of equipment for FRA to impose uniform standards. Such argument has no merit. The basic standards would be minimum requirements to help assure safety of the employees and the public. Where peculiarities of equipment make it impossible for the railroad to comply, a waiver may be sought.

AFFILIATED ORGANIZATIONS: The American Railway and Airway Supervisors Association—Division of BRAC • American Train Dispatchers Association • Brotherhood of Locomotive Engineers • Brotherhood of Maintenance of Way Employees • Brotherhood of Railroad Signalmen • Brotherhood of Railway Carmen of the United States and Canada • Brotherhood of Railway, Airline and Steamship Clerks • Hotel Employees and Restaurant Employees International Union • International Association of Machinists and Aerospace Workers • International Brotherhood of Boilermakers and Blacksmiths • International Brotherhood of Electrical Workers • International Brotherhood of Firemen and Oilers • International Longshoremen's Association • International Organization of Masters, Mates and Pilots of America • National Marine Engineers Beneficial Association • Railroad Yardmasters of America • Sheet Metal Workers International Association • Seafarers International Union of North America • Transport Workers Union of America • United Transportation Union

I. Emergencies

With respect to responses during emergencies, many improvements are needed. Too many injuries have occurred because passengers were not informed about procedures to follow during an emergency. Unlike airlines, whenever a train departs the terminal, many railroads do not provide information to passengers such as pointing out the exits, or what steps to take in case of the unlikely event of a derailment, collision or other mishap. The crews on passenger service are not adequately informed on emergency procedures.

We are aware that Amtrak has instituted a briefing program that requires attendants in sleeping cars to advise passengers of special training in handling emergencies and to inform passengers that the attendants are available for questions about procedures and locations of exit doors, emergency windows, etc. We see no valid reason why passengers in trains do not receive the equivalent safety information as do airline passengers.

The Seabrook, Md. accident June 9, '78 highlighted another safety deficiency. There was no indentification of the emergency mechanism for opening the side doors of the Conrail cars.

Accidents occurring at night provide a further concern in derailments or collisions. There are no emergency lighting standby power sources on many trains, nor communications facilities. The NTSB has made several recommendations for such requirements.

The failure to have all cars and passenger compartments equipped with emergency windows is a further area of great concern. This need was highlighted in the June 23, 1982 Amtrak derailment at Gibson, California. That accident also shows the need for smoke detectors and alarm systems in certain emergency situations.

Our members inform us that the location of first aid equipment is not known by the passengers, nor by the crews on some trains. Also, the emergency equipment should be clearly labeled and painted a uniform color for easy indentification.

II. Maintenance And Design

A. Doors.

The doors on various types of cars have been a prime source of safety problems. One horrible example occurred in 1974 on a Long Island Railroad commuter train. A passenger, while attempting to exit a standing train, was trapped between two sliding doors as they closed. The doors caught the man's ankle and the train started. The passenger was dragged approximately 180 feet and was electrocuted in the process when he contacted the third rail. A train under no circumstances should be able to move when anything is caught between the doors.

The emergency release mechaninisms for doors are not identified on some railroads so that the doors can be opened easily by passengers in an emergency. In addition, operating instructions should be clearly marked and there should be a means for emergency personnel to open car doors from the outside.

On Amtrak cars there is a continual failure of the electrical system for end doors, and the door recess into the car body makes the opening of doors difficult, particularly when there has been an accummulation of snow. Also, on Amtrak the position of electric controls on the outside of cars, instead of inside, prevents access when a train is in motion.

B. Radios and Other Communications Equipment.

The FRA has been apprised of the need for operable radios on trains many times not only by rail labor, but the NTSB as well. An Amtrak collision on April 20, 1979, at Edison, New Jersey, points out the obvious hazards involved. As a result of the accident the NTSB recommended operable radios be required on all trains (Recommendation R-79-73).

C. Speed Indicators.

Speed indicators on passenger trains have been recommended in the past by rail labor as well as the NTSB (see NTSB Recommendation R-76-32 issued July 30, 1976). The reasons are obvious -- to help assure a train does not exceed speed restrictions. Many accidents have been attributable to excessive speed under the circumstances (See e.g. NTSB Rept. Nos. RAR-77-4; RAR-73-5).

D. Crashworthiness.

There is an urgent need to determine the crashworthiness of all passenger equipement. Safe standards are necessary to help protect passengers from the hazards of a collision. It is technically feasible to design cars to withstand collisions at moderate speeds without passengers suffering fatal injuries. The problem is FRA's reluctance to responsible address the issue. A number of NTSB reports deal with this problem (See e.g. NTSB Rept. Nos. RAR-74-5 and RAR-76-7).

E. Protection for Passenger Inside Cars.

The problem of protecting passengers from being injured by hazards inside the cars has been brought to FRA's attention on numerous occasions. The Seabrook, Maryland, accident in 1978, was one example. There, passengers on one of the trains were injured by being propelled into seat backs which collapsed, and onto unpadded metal strips bordering the tops and sides of seats. Passengers on the other train suffered injuries when the seats rotated because of defective locking mechanisms. Moreover, the seats had not been given any service maintenance.

Included in the above are also problems of passengers being injured or killed by being thrown through large windows. While some railroads have voluntarily corrected the problem, others have ignored it. FRA has a duty to assure the safety of passengers, and cannot continue to sit by idly while these hazards continue to go uncorrected.

F. Repairs.

It is particularly appalling to rail labor that whenever car inspectors find defects, many supervisors prevent the needed repairs from being performed. The practices on the Long Island Railroad are particularly bad. We have numerous complaints from car inspectors that the foremen regularly require them to put defective cars back into service. Another type of problem exists at Mobile, Alabama. The Amtrak has hired non-qualified persons to perform the repairs on its cars. It is necessary that FRA set a minimum qualification standards for all persons performing repair and maintenance work.

III. Environmental Type Protection.

a. Toilets

One of the most disturbing passenger car problems is the inspection and maintenance of toilet facilities. There is no reason why the sanitary conditions on railroads cannot equal those on airlines. At every terminal the airlines inspect and clean the toilets on the planes. Railroads, on the other hand are not consistent in maintaining good sanitary conditions.

b. Toxic materials.

It is a must that nonflammable characteristics of the transformers on passenger cars and locomotives be maintained because of the fire danger to passengers and crews. In addition, the possibility of toxic gases caused by incomplete combustion will create extremely toxic materials and vapors, such as dioxins. No transormer fluid should be used that does not have the same fire retardent capability as PCB. Therefore, we recommend that a regulation require that fluids for railroad transformers be no fire point fluids.

In conclusion, we urge FRA to comply with the Congressional mandate to impose reasonable standards for passenger trains.

Respectfully submitted,

J. R. Snyder

J. R. Snyder, Chairman
Safety Committee
Railway Labor Executives' Association

EXHIBIT

SUBMITTED BY THE BROTHERHOOD OF MAINTENANCE OF WAY EMPLOYES IN SUPPORT OF PROPOSED SAFETY LEGISLATION TO BE ENACTED UNDER FEDERAL RAILROAD ADMINISTRATION AUTHORITY

Following is a submission of an exhibit by the Brotherhood of Maintenance of Way Employes in support of proposed safety legislation that we feel should be enacted under FRA authority. We have listed examples in six areas.

1. Safety surrounding bridge and building work. Many of the bridges in railroad systems cross not only large bodies of water but also expressways, turnpikes, and busy city streets. Some carriers in some instances have employed the use of safety belts and lines but in most cases our men are required to work at extreme heights in the general maintenance of these bridges without any safety protection taken whatsoever. OSHA, however, within their regulations prescribe that in some cases safety nets be used, and in other cases that a manned boat be on location during the time that this work is progressing.

2. Walkways and Handrails on Trestles and Bridges. Now with the almost certain disappearance of cabooses where it will be necessary that more and more foot travel be done across these bridges that it would be appropriate at this time that walkways and handrails be installed for the protection of the employe.

3. Motor vehicles used to transport railroad employes. In some instances safety precautions in this area are non-existing. Our people are required to ride in the rear truck at the same time that flammable materials are being hauled. In many cases the vehicles do not meet and in many cases escape the vehicular standards set by state law. There should,

therefore, be regulations that will require a penalty that rider and material be separated and that the vehicles meet the prescribed standards set by the individual states.

4. Employes Engaged in Production Work Using Heavy On-track Machinery. There does not seem to be a uniform procedure for handling of train traffic through the work area. In many cases clearance between the two tracks in double-track territory places the machinery and the trains in close clearance. In many cases the trains are not required to reduce speed when moving through the work area and/or is the employe required to stop work and move into the clear to permit the passing of trains. Certainly a more controlled system to protect these people could be devised that would permit the employe to stand clear of the approaching passing trains. Also this would keep them in the clear of any falling objects from passing trains.

5. Noise Level. Also in connection with the operation of these machines many of them working in tandem have a high noise level. It may be that the wearing of ear protection as prescribed under OSHA standards be appropriate in this area.

6. Working and living away from home. Many of our members in the course of their employment are required to work and live away from home. To accommodate their living away from home, the Carriers are required to provide them with campcar or trailer facilities that are used as places of lodging and places to take their meals. These trailers and campcars where the sleeping quarters are concerned are nothing more than dormitories of days gone by. The people living in same are without privacy. There are no recreational facilities provided for them or area for which that can be carried out. In many cases meager sanitary facilities are provided, that

are almost unbelievable in this day and age. To correct this condition, while it does not apply to all railroads, but on many, we would suggest that the amendment which the United Transportation Union obtained under the Hours of Service Act Pertaining to Campcars applicable to the Signalmen and Communications people, be very, very seriously considered in this matter.

UTU

united transportation union

February 9, 1987

I am the Local Chairman of United Transportation Union, Local 1470 and represent passenger trainmen in the Northeast Corridor of Amtrak. I have prepared the following list of safety related problems which I feel should be addressed at this time. These concerns are real and are problems that my members and I experience everyday. Most of these problems began occurring when the budget cuts seemed to put cost cutting and on-time performance before safety.

I addressed most of these problems in a meeting with Amtrak management in September and have seen little improvement. As I address each problem, I will make suggestions that I feel will help improve the safety of the traveling public.

Communications:

Each car in Amtrak's fleet is equipped with a communication button that, when pushed, is supposed to sound a buzzer in the operating compartment of the engine. A standard set of codes indicates the message to the Engineer.

For example, two buzzes mean stop the train. This communication button seldom works and is not reliable. Amtrak does recognize that this device is not reliable and advised me in November that a modification was to be made to every Amfleet car. As of this date, I have not seen and do not believe any modifications have been made. This problem is serious because Amtrak does not require the Conductor have a working communication button or portable radio. The only requirement is that the engine be equipped with a working radio. Many trains are dispatched with no means of intertrain communication. When this condition exists, the only means the Conductor has to stop the train is emergency applicatiion of the brakes.

Another existing communication problem is between the Conductor and crew. This was evident when train 94 wrecked January 4, 1987. The Conductor and other members of the crew were spread through the train and had no means of communication. Amtrak's present policy in the Northeast Corridor is to issue only the Conductor a radio. This is not a requirement and if no radio is available, the train would be dispatched without one. In the case of train 94, the Engineer died at impact and the Conductor's radio was damaged. This left the Amtrak crew with no means of communicating with each other, Edgewood Tower, or other trains to alert them of the emergency. At no time should a train be allowed to operate unless the Conductor and Flagman have portable radios and the engine is equipped with a working engine radio.

Proper Crew Size:

In many cases, particularly during peak holiday travel, trains are operated understaffed. Guidelines have been established for the number of crew members proportional to the number of cars on a train. In most cases, these staffing requirements are followed, but when a full crew is not available, trains are run understaffed jeapordizing the safety of the traveling public. One example was train 174 which departed Washington the Sunday after Thanksgiving with 14 cars and only 2 crew members. This train should have had at least 5 crew members. When these crew shortages exist, serious consideration should be given to cancelling or delaying the train until it can be properly staffed.

Another concern is that the Conductor has been reduced to a ticket collector and cannot devote the time and energy needed for the safe operation of the train. This was also evident in the wreck of train 94 on January 4, 1987. The Conductor and other crew members were still collecting transportation when the wreck occurred. Because of this, the Conductor had not walked through the train and had no count of the passengers on board. Trains should be staffed in such a way to free the Conductor from ticket collecting to perform the necessary responsibilities of monitoring the safe operation of the equipment and crew.

Doprs:

The design, operation, and maintenance of the automatic outside doors continues to be a problem. In September, I advised Amtrak management of the problems encountered and also voiced concern that the door seals should be checked before cold weather. Doors are encountered that either open by themselves, open on both sides, or do not open at all. Many trains leave stations with doors still open. There is no safety device which prevents a train from running full speed with an open outside door. Some Conductors have requested that a train be stopped so they can safely close an outside door and they have been ordered to run to the next station so on-time performance would not be affected. During the recent snow storm, more doors were frozen shut than worked. On January 27, train 168 was dispacthed from Washington, D. C. with 16 out of 24 doors frozen shut. What would have happened if an emergency evacuation had been necessary. This was due to poor maintance of the door seals.

The design of the door should be changed or the present design should be improved. When the doors open by themselves or on the wrong side, special instructions should be issued to Conductors not to use the automatic door feature, but to manually open the doors. Additional crew members should be ordered at the next available location to help operate these doors. Additionally, the engine should be equipped with a device which shows when all doors are closed and it is safe to proceed.

Automatic Train Stop:

The present location of the speed control cut out switch makes it too easy to over rule the system. The switch is on the console panel in front of the Engineer and when the cab signal drops from proceed to restricting, the Engineer can simply reach out and cut the speed control out after speed has been reduced to 79 mph. It should either be moved so it cannot be reached from the Engineer's seat or should be designed so that it cannot be cut out until the speed of the train is reduced to 20 mph.

Hot Journal Detection System:

Amtrak has installed a hot journal (wheel bearings) detection system on each Amfleet car. This is a safety device which sounds an alarm in the car when a hot journal is detected. When this alarm sounds, the train must be stopped and the car must be physically checked with a crayon-type stick that melts at 200 degrees. These hot journal detection devices have given so many false readings that, in some cases, they are disconnected. This device, when working properly, could prevent a serious accident and should be modified to be reliable.

In conclusion, most serious safety problems are directly related to poor maintenance. Amtrak's fleet is so short of equipment many engines and cars that should be pulled for maintenance are not. They are minimally repaired and kept in service.

These criticisms are not meant to discredit Amtrak, but are a sincere effort to improve the safety of our passenger system.

The members of United Transportation Union which operate trains in the Northeast Corridor are ready to do whatever is necessary to help improve rail safety. Please contact me if any of my members can be of any help. We are willing to meet with any concerned parties. We work the trains on a daily basis and have knowledge of Amtrak's strengths and weaknesses. Amtrak should be the leader in safety in the rail industry.

Mr. McMillen. Thank you. For the sake of time, what we will do is we will move on and then come back for a few questions.

Mr. Capon, do you have some comments to make? You have some testimony as well that we will insert into the record.

Mr. Capon. I will just comment briefly on a couple of the points. First of all, going through the summary on our front page, railroads, and this is primarily freight railroads, and their workers, need to address problems related to employees working long shifts on short notice and working too many shifts per month.

I quote on page two from Mr. Riley's own statement in the Federal Register in 1984, which confirmed the existence of the problem, and while there may indeed be Hours of Service Act violations out there, the essential point here is that—even while you comply with the Hours of Service Act—you can have fatigue problems because the Hours of Service Act simply limits the length of individual shifts and sets minimum rest periods between those shifts. It does not limit the number of shifts an employee can work per month and it allows employees to be called to work on very short notice. The Hours of Service Act is a very minimal framework for safety and complying with it does not necessarily assure that you are going to have well rested workers.

The second point goes in tandem with the sixth point and that is we support the Safety Board's recommendation that all trains on the Northeast Corridor be equipped with speed control devices or an equivalent system which would safely apply the brakes after failure of the engine crew to respond promptly to a signal requiring the speed reduction or full stop.

I would like to comment, however, on the relationship between this and the issue of separating freight trains and passenger trains. Mr. Riley implied that they were an attempt to solve the same problem and that since it was cheaper to do the speed control, that seemed to minimize the significance of separating freight and passenger, and the point that is made on page four of my testimony is that the primary purpose for separating freight and passenger trains is not simply to avoid the kind of situation you had at Chase, where an engine ran a red signal. It's not just to deal with the human factor error.

It is also to deal with the nature of the freight train, which is that you have freight train derailments fairly frequently throughout the country, not necessarily a human factor accident but simply to quote Secretary Dole's own report of two months ago, the second full paragraph in my section five, "The potential remains for freight related safety problems.* * *" and this is Secretary Dole, "* * * which could adversely affect inter-city passenger and commuter trains." This is from her report on the Northeast Corridor. "Amtrak cannot control the scores of owners of freight cars and locomotives operating over the Corridor, neither can it subject every piece of non-Amtrak equipment to a complete safety inspection."

In the past three years, there have been at least three major Northeast Corridor freight derailments, one in New Jersey and two in Maryland, and we have been lucky that no passenger train has been in the wrong place at the wrong time.

I believe on the other side, Mr. Claytor said there were six major accidents in four years.

The point is no matter how reliable the engineer is, no matter how reliable your automatic train stop device is, if you have a freight train derail just in front of a passenger train, you have a problem, so there is a safety benefit to minimizing the amount of through freight traffic that exists on the Northeast Corridor, even if you have a totally drug free environment. If no train passes a red signal, you will still have a danger simply because of the nature of freight trains. There different cars from different companies all over the place when those derailments happen.

That's why we need to address minimizing the amount of freight traffic on the Corridor, completely in addition to dealing with the safety signals and the drug problem, et cetera.

The third point on extending train control across the nation, I need to make a correction with regard to page three of my testimony. I made the mistake of putting a reference to a technology in here on the basis of one phone call, a reference to LORAN. LORAN is not precise enough for railroad application. You need to know exactly if the train has cleared a switch and it's just a completely different technology.

The technology to which Mr. Riley referred, the ATCS, I came across this morning an excellent and brief article in Modern Railroads which summarizes this technology, which I would be glad to leave with you, if you would like.

There are two sentences from it that might be worth quoting here.

> By 1990, the Union Pacific intends to have its entire main line covered by ATCS. It is hard to find any skeptics on the subject of ATCS. This is because the technology already has proven to be workable. Transponders placed in the road bed are the technology's basic equipment for locating trains and they have been in use for some time on the Swedish railways, where they are used to control the entire system.

I just didn't want anybody to spend a lot of time worrying about LORAN. I apologize for putting it in there.

I think that given the lateness of the hour, I will simply conclude by noting the bottom paragraph on my summary there. We believe railroads should monitor the highway driving records of their employees and take action on the basis of changes in those records. The Maryland Mass Transit Administration is already doing that, as I note in the testimony, in my text, and I want to specifically support H.R. 718, which would authorize both the FRA and the FAA to gain access to the National Driver Register.

Given the lateness of the hour, I think I have taken enough of your time, and I will leave it at that.

Mr. McMILLEN. Thank you very much.

[The prepared statement of Mr. Capon follows:]

Statement of

ROSS CAPON

Executive Director

National Association of Railroad Passengers

Before the Subcommittee on Transportation,
Aviation and Materials

Committee on Science, Space and Technology

U. S. HOUSE OF REPRESENTATIVES

Rail Safety

February 25, 1987

Mr. Chairman and Members of the Subcommittee, thank you for this opportunity to present the views of our non-profit, consumer-oriented Association.

Summary

*Railroads and their workers need to address the problems related to employees working long shifts on short notice and working too many shifts per month.

*We support the National Transportation Safety Board (NTSB) recommendation that all trains on the Northeast Corridor (NEC) be equipped with speed control or an equivalent system which would safely apply the brakes after failure of the engine crew to respond properly to a signal requiring a speed reduction or full stop.

*Avoiding major "freight-train-only" wrecks is also of critical importance. Freight train wrecks--particularly where hazardous materials are involved--can cause great danger to and force evacuations of nearby populations. To that end, the government should be encouraging research on economical means to extend speed control and similar devices beyond the handful of railroads now using them.

*Unless and until technology permits widespread introduction of passive detection of the alertness of engine personnel, there appears to be need for an alarm device which is not as irritating as some of the old whistles now in use as cab alerters--and which is difficult to disable.

*In the long term, we believe through freight trains should be removed from the Northeast Corridor (NEC), as recommended by U. S. Railway Association in 1975.

*We believe railroads should monitor the highway driving records of their employees and take action on the basis of changes in those records. This would be facilitated by Congressional authorization of access to the National Driver Register.

*We support random testing of safety-related employees for drugs and alcohol.

I. Hours Worked in Freight Service Can Create Problems

Irregular, unpredictable, and long hours worked by mainline rail freight crews increase the likelihood of problems relating to crew fatigue and impairment due to drugs and alcohol, as Federal Railroad Administrator John H. Riley confirmed in 1984 (see below). On Feb. 18, 1987, both at an FRA hearing and in an interview on The McNeil/Lehrer NewsHour, Riley said management and labor have not made progress on this as he had urged in 1984, and warned that their continued failure would force federal action to improve the situation.

Currently, the Hours of Service Act limits the length of crew members' shifts to 12 hours, and sets minimum rest periods of 8 or 10 hours between shifts. It does not limit the number of shifts an employee may work per month, and it allows employees to be called to work on very short notice. Railroads, locked in a tough competitive battle with the heavily subsidized trucking industry, have little incentive to negotiate changed procedures that might increase crew costs; and, because some employees like to work a large number of hours per month, there is even some resistance to change on the labor side.

Riley's 1984 statement said, in part: "FRA does not disagree that some features of the life style of employees in road freight service on line-haul railroads may tend to aggravate, and may in some instances actually prompt, use of alcohol and drugs that affects job performance. ...FRA also agrees that, as pointed out by a Brotherhood of Locomotive Engineers member, crew assignment practices on some railroad divisions result in disruptions of sleep patterns and may produce fatigue.... Several witnesses...singled out present crew calling practices as promoting uncertainty among employees and making it difficult for employees who may participate in events where alcohol may be served and then get caught by a short call [ed.: 2 hours' notice to report to work]....
"Accommodation of the railroad's need for flexibility in scheduling assignments, on the one hand, and the employee's desire to live a more 'normal' life, on the other, is a matter best left to collective bargaining. Labor and management could bargain for a system in which employees would be allowed to mark off without penalty when they receive genuinely unexpected calls that involve short notice. Restrictions could be placed on the number of such instances and their use during holiday periods" (Federal Register, June 12, 1984, pp. 24273 and 24284).

II. Speed Control

The NTSB has recommended that all trains on the NEC be equipped with "automatic train control devices or an equivalent positive control system." We presume NTSB has in mind a system that automatically applies the brakes when the train crew fails to in response to a signal requiring a speed reduction or stop. Amtrak, the owner and operator of the NEC, presumably has the authority to impose this requirement, but the Federal Railroad Administrator should also incorporate it into FRA's safety regulations.

I understand that only 4 Conrail diesels currently are equipped with speed control--those which haul board of directors' specials--but that the old electric freight locomotives did have speed control. These latter engines were removed from service in the mid-1970s, briefly revived during the 1979 energy crisis, and then permanently retired--with wires removed from freight-only segments (including the entry into Potomac Yard, Alexandria and the Anacostia line that enables freights to bypass Washington Union Station). Since the diesels which replaced those electrics do not have speed control, the NEC today is actually less safe than it was 10 years ago--less safe in a crucial way that apparently permitted the "Colonial" tragedy to occur.

The automatic-control requirement should also extend to commuter rail rolling-stock used on the NEC. I understand that most such rolling-stock is not currently equipped in accordance with NTSB's recommendation.

III. Speed Control Nationwide

While the NEC is unique because of high-speed passenger operations, the most serious possible rail accident might involve freight train(s) only. As the FRA Chief John H. Riley stated in the background discussion accompanying his July 29, 1985 Alcohol/Drug Use FINAL RULE (p. 58):

> "The railroads transport large quantities of explosives, flammable gases, flammable liquids, and poisons, including products capable of producing both short and long-term damage to the environment. An example of a product which presents a large risk of open-air detonation is propane. A single tank car may contain 30,000 gallons of that product sufficient to create a large vapor cloud and inflict damage over a wide area if ignited. The railroads also carry many of the same chemicals that have caused major public concern when accidentally released from chemical factories."

Therefore, it is important to find a form of speed control technology which can be applied to mainline freight operations nationwide at a reasonable cost. Mr. Riley recently claimed that installing existing speed control systems costs about $230,000/mile but that in-service testing will start in about 18 months for a $4,000/mile system "that operates on computer controls and transponders in the track." (Presumably, the $4,000 does not include the cost of installing the units on the trains themselves.)

After the televised rail safety discussion in which Mr. Riley and I participated Feb. 18, I received a call from someone involved in the production of "LORAN" equipment for maritime use who thought that a similar system for trains could be devised for roughly $5-7,000 per locomotive plus $30-50,000 per dispatching center. A notable apparent difference between the new system Riley described and the "LORAN" approach is that the latter would not involve the tracks but simply signals between locomotive and the central computer. I have not had time to check this further, but thought it worth reporting to you because of your primary interest in technology and because it is so important to solve the problem at issue. Even total elimination of drugs and alcohol from the cab would not eliminate the potential for people to fall asleep or to make mistakes while awake.

IV. Alerters

There has been much publicity about engineers disabling alerter devices in cabs. As NTSB Chairman James Burnett stated last week, however, "design problems stimulate sabotage of equipment." This is not to condone the 'sabotage,' but merely to observe that some of the whistles being disabled appear to have been designed many decades ago. The obvious question: can't we design electronic alerters whose sound is unmistakable but not quite so irritating and which cannot be disabled? If this hasn't already been done somewhere, should FRA's research and development budget be devoted partly to this end?

There may be a new generation of "alerter" which is passive in that it does not require the engineer to take an action every several seconds but can detect his alertness through other methods. I believe engineers would be happy for such a development but, if it is not imminent, the need questions posed in the preceeding paragraph take on greater urgency.

V. Remove Through Freights from the NEC

We believe through freight runs (including light engines such as "Colonial" hit) should be removed from the NEC mainline. This was recommended for efficiency as early as 1975 in the USRA Final System Plan, which stated: "USRA believes that passenger and most through freight service should be separated in the NEC to help implement improved high-speed service." For rerouted freight trains, USRA said, "use of the Chessie route between Philadelphia and Washington appears to be the most effective means to implement the high-speed rail program."

The safety benefits of separation are explicitly acknowledged in Secretary Dole's report, NORTHEAST CORRIDOR: ACHIEVEMENT AND POTENTIAL (Nov. 1986): "To preserve ride quality on the NEC at a reasonable cost, and to upgrade still further the safety and reliability of intercity passenger operations, Amtrak may wish to facilitate the removal of some or all through freight service from the Corridor south of New York. The potential remains for freight-related safety problems, which could adversely affect intercity passenger and commuter trains....Amtrak cannot control the scores of owners of freight cars and locomotives operating over the Corridor. Neither...can it subject every piece of non-Amtrak equipment to a complete safety inspection...." (emphasis added).

North of Philadelphia, most through freights have already been removed, presumably because Conrail itself owns and is already heavily using the alternate routes there whereas the Philadelphia-Washington solution requires difficult negotiations with a separate company (CSX).

The main safety reason for removing through freights from the NEC is to minimize chances of a freight derailing next to or in front of a high-speed passenger train. Derailments of mainline freight trains are not uncommon. On multi-track lines, such derailments often foul adjacent tracks. In the past 3 years, there have been at least 3 major NEC freight derailments (Metuchen, NJ; Landover and Bowie, MD) and we have been lucky that no passenger train has been in the wrong place at the wrong time.

The NEC is unique with respect to frequency of passenger trains--29 daily round-trips Philadelphia-Washington (vs. NY-Albany's 9 and Los Angeles-San Diego's 7)--and with respect to passenger/freight speed differentials. Top passenger speed is 125 mph vs. generally 79 mph or less elsewhere. Top freight speeds--50 mph except 60 in certain situations--are slower than on many non-NEC railroads.

Additional benefits of removing through freights from the NEC presumably include:

*more reliable freight service (less waiting for passenger trains; less incentive to run freights at night--perhaps compromising freight shipper needs--to avoid passenger-related delays and the newly imposed NEC 30 mph freight train speed limit in effect from 6 AM to 10 PM),

*more reliable passenger service (NEC tracks can be blocked both by freight derailments and simply when big freights become disabled or delayed in the wrong place), and

*more comfortable, economical operations since big freight trains would no longer be pounding the passenger tracks out of shape.

VI. Management Responsibility: Knowing Employees' Driving Records

Traditionally, it appears that rail management and labor have viewed employees' off-duty highway driving records as "none of management's business." A 1984 NTSB recommendation relating to air safety, the Jan. 14 report in The Sun (Baltimore) about the Conrail engineer's driving record, and the close watch Maryland's Mass Transit Administration keeps on driving records of its bus and subway operators argues strongly for change.

BACKGROUND:

A. On May 1, 1984, the NTSB adopted Recommendation A-84-49 ("Class II, Priority Action") to the FAA. A-84-49 states: "Seek legislative authority to use the NDR to identify airmen whose driving licenses have been suspended or revoked for alcohol-related offenses."

B. The Sun reported that the Conrail engineer, since 1972, had been "convicted 8 times for speeding, once for an improper turn, once for improper passing and once for negligent driving. Most recently, Baltimore County police arrested him in Dundalk Dec. 5 on charges of drunken driving and running through a stop sign and a red traffic light."

C. Baltimore subway operators are subjected to closer scrutiny than mainline railroad engineers, even though the latter have at least as much responsibility over people's lives. Maryland's Mass Transit Administration (MTA) does not hire bus or subway operators who have more than 3 moving violations on their driving record. MTA gives its operating employees' drivers' license numbers to the Maryland Motor Vehicle Administration, which assigns them a "Special Attention" code and notifies MTA of changes in these driving records. Such notification triggers an automatic review by MTA of the employee's status leading to counseling, dismissal, or close observation by MTA's Safety & Training Department to see if retraining is appropriate. Under MTA's union contract, an employee loses his/her position if his/her driver's license is suspended due to reckless driving or driving under the influence of drugs and alcohol. If the license is suspended for a minor offence, the employee is given a leave-of-absence up to 120 days and can return to work when his/her drivers' license is restored.

We are not suggesting that an engineer should lose his job because he runs a red light. However, somewhere between running that red light and the long record the Conrail engineer racked up a line should be drawn. What concerns us is that no one is drawing that line. Abandoning the old "driving-record-is-irrelevant" attitude should provide for greater safety on all forms of transportation. If airline pilots and railroad engineers know that their driving records are under scrutiny by their employers, they are more likely to be careful on the highway. Conversely, if a highway infraction triggers a review of their employment status (as the Dundalk incident presumably would have if Conrail followed the MTA approach), the engineer would have had an extra incentive to extraordinary caution while operating his train (Actually, with such a driving record, he could not even be hired by MTA.)

In light of this, we believe Congress should approve legislation suggested by NTSB recommendation A-84-49 and expand it to safety-related railroad employees. The legislation is necessary because the law establishing the National Driver Register limits access to states, and--under certain circumstances--NTSB and the Bureau of Motor Carrier Safety. Under a 1982 revision of the law, however, certain employers (including bus and trucking companies but not airlines or railroads) eventually will get access to the information.

VII. Random Testing for Drugs and Alcohol

We support random testing of safety-related railroad employees for drugs and alcohol. "Reasonable suspicion" testing has not done the job--and isn't likely to. A person who has had drugs can behave in a totally normal way. Consider the Jan. 20 testimony of Conrail Senior Vice-President Richard B. Hasselman to the effect that supervisory personnel had seen the Conrail crew when they reported to work Jan. 4 and after the wreck and noticed nothing amiss in their behavior at either time--yet Amtrak President W. Graham Claytor Jr. said their "impairment" is the only explanation he can imagine for what happened.

Consider also this excerpt from a letter published in The New York Times on Jan. 28. The letter is from Helen C. Jones and Paul W. Lovinger, identified as authors of "The Marijuana Question," published in 1985.

> "Cannabis's main mind-altering ingredient, the fat-soluble THC, can persist in the brain for a month or more, unlike the promptly dissipating alcohol. Intoxication can return without further smoking, as five studies show. A pilot told us of his panic when it happened to him in flight."

Finally, the following excerpt from a Jan. 29 Washington Post news story:

> "When asked whether he smoked on the train with [Fireman] Cromwell, a longtime friend with whom Gates said he worked occasionally, Gates [the Conrail Engineer Jan. 4] answered with an emphatic, 'No!' Gates added, 'What I do on my own time is my own business.' He declined to elaborate."

Assuming the accuracy of the quotation from the letter in The Times, what safety-related personnel do on their own time is very much the business of their employer--and of the public at large--when those activities include drug use. Simply put, anyone who uses drugs should get out of safety-related occupations or quit using drugs permanently. My point in quoting Gates is not to "beat up" on him but to put in context a viewpoint heard from many individuals in the past month--an apparently widespread viewpoint which must be eradicated among the ranks of safety-related employees.

Probably the fundamental reason for random testing is to establish an effective deterrent. With computer-driven random testing, two things should be clear: the requirement to test could come to pass at any time while an individual is on duty, and the supervisor who notifies the employee of the test has no discretion. When testing is limited to "reasonable suspicion" the deterrent effect is limited by

(1.) the possibility that an individual who has used drugs is not reflecting that fact in his or her behavior at the time of supervisory observation; and

(2.) the possibility that a supervisor who detects some form of influence (particularly a very mild form) may decide not to call for a test.

Thank you for the opportunity to present this testimony.

Mr. McMillen. Moving on to Mr. Garner. As you know, we invited you here today because of your independent status. Could you comment on the testimony you heard today, and give us a priority list of safety recommendations?

Mr. Garner. Yes, I can. I first of all apologize for not having a prepared statement.

Very quickly, and let me give you an idea of my background. I have 24—29 years with the railroad, 16 years with the federal government, of which three was with the Interstate Commerce Commission in the Accident Section, and 13 years with the NTSB, the last five being Chief of the Railroad Accident Division.

So primarily I was involved with some of the recommendations that were talked about today when they were first made. And it very quickly became very evident when we started our investigation of accidents that recommendations and processes were needed to control trains when the engineer failed to do so, and to control trains by signal indication when the engineer failed to do so.

These recommendations were started, and a number of such recommendations were made. Now it was not the intent of the Safety Board at that particular time to say that all railroads should have automatic speed control. It was our intent for the industry to devise systems that would do this, and finally I am happy to hear today that action has been taken on additional systems.

The Northeast Corridor, however, was the first portion of any railroad that came close to having an automatic speed control system, and I was under the impression that it was pretty well standard. And when I heard about the accident, I was appalled because I didn't think such an accident could occur.

I did find out later, however, how it did occur, that the system was not applied to the Conrail locomotives. This would not have been possible 15 years ago, when the Northeast Corridor was turned over to Amtrak. At that particular time all trains were required to be controlled by automatic speed control.

If for any reason they were not, or they became defective, the train operating rules required those trains to make a report to the division superintendent's office, get permission to operate at speeds not exceeding 25 miles per hour.

I was very, very happy to hear that Mr. Claytor stated that they were starting this kind of a procedure on the Northeast Corridor now. I am sure that this will assist in providing safety. I also want to add on to what Mr. Capon said that it is very necessary to have a separation of passenger trains and freight trains on the Northeast Corridor, because you do have the possibility of train derailments with a freight train. This is something you must keep in mind, and it's just not the kind of an operation you're talking about that's going to be controlled by speed control, but you do have the other problem.

I think that's about all I have to add, and I will be glad to take any questions.

Mr. McMillen. I have just one or two questions that because of the lateness of the hour, I would like to get some general comments.

Mr. Snyder, you were very forceful in your—in your opinion that the FRA was not effective in enforcing safety regulations. If you had to pick one cause—funds, lack of funds, attitude, competence of the inspectors, or lack of authority—where would you point the finger at the FRA?

Mr. **Snyder**. I'll be glad to answer that question. That's an easy one, Mr. Chairman. The rank and file of the inspectors we have out in the field out there are doing a real good job, a real good job. I get reports out there. Where our problem is is right down here in Washington. The head. They get their instructions, they call me, they got their instructions, you know. I could spend a lot of time—and I will be glad to furnish the committee—they put in—Mr. Riley mentioned here about the cooperation with labor. We have cooperated with FRA more than—we've been there every time, spent a lot of time and all to come up for hearings and all. But if we're going to get anything to help, as far as we're concerned, to help the public, these things I've mentioned, the Congress is going to have to do it. They haven't done it. What we have gotten, we have gotten up here on the Hill. We haven't got it through the agency down there, through the FRA. That's the truth, now. But these—this is where our problem is, and the policies they have applied down there is where our real major problem is.

Mr. **McMillen**. So you say it's more of a lack of attitude, bias and——

Mr. **Snyder**. Well, I don't want to get in a round the, round the ring with Mr. Riley. He's a nice fellow and all. But the railroads couldn't have a better witness, I'll say that. The railroad management. So—Mr. Mann want's to comment.

Mr. **Mann**. Mr. Chairman, just to remind you, the NTSB even admitted that the FRA doesn't have a reputation for being aggressive in enforcement.

What I want to direct your attention to, and I take great issue with, is Mr. Riley and his figures. Now either they are purposely deceiving everyone in their statistics, or they don't know what their statistics are.

For example—and this is from the FRA, Mr. Chairman, and I want it put in the record, if I may. But it's a summary. I think the best way to describe it is to show it to you, if I may, and then we could discuss it for just a moment. These are the most recent statistics from the Federal Railroad Administration. Mr. Riley testified that we were misrepresenting the figures. But there are the figures, Mr. Chairman, those are the figures we quoted from, and those are the figures that are in our testimony. And if they are not right, then Mr. Riley should make them right. They are not from us.

[The information follows:]

PRELIMINARY COMPARISON OF ACCIDENT/INCIDENT DATA FOR JAN-OCT OF 1985 & 1986

Type Acc/Inc	Number Of 1985	1986	% Change	Killed 1985	1986	% Change	Nonfatal Cases 1985	1986	% Change
Train Accidents	2,792	2,174	-22.13	7	11	57.14	422	878	108.06
Rail-hwy X-ing	5,637	5,162	-8.43	459	508	10.68	2,231	1,998	-10.44
Other Acc/Inc	26,978	19,989	-25.91	387	404	4.39	26,804	19,787	-26.18
Total......	35,407	27,325	-22.83	853	923	8.21	29,457	22,663	-23.06

NOTE: Rail-highway crossings collisions are excluded from "Train Accident" and "Other Acc/Inc" counts in this table.

* * *

	1985	1986	% Change
Train accident rate (1)	5.84	4.59	-21.40
Employee on duty casualty rate (2)	8.69	6.85	-21.17
Rail-highway x-ing accident rate (1)	11.79	10.89	-7.63

1) Per million train miles
2) Per 200,000 hours worked

* * *

	1985	1986	% Change
Train Miles	478,168,985	474,126,607	-0.85
Manhours	591,088,990	551,463,003	-6.70

* * *

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OFFICE OF SAFETY (RRS-22), PHONE (202) 366-2760

Mr. **Mann**. Number two concerned the question you asked of an earlier witness about their enforcement, and how many cases they cite fines on, et cetera. Again, these figures are not ours. These are the FRA statistics that we have attached to our testimony, and when you review it, if—if indeed it's like Mr. Riley says it is, then he shouldn't have these types of figures published and disseminated to the public.

Thank you.

Mr. **Snyder**. Mr. Chairman, just one thing further. Mr. Lindsey wants to say something. Mr. Lindsey wants to make a few comments. He's a well qualified union member.

Mr. **Lindsey**. I will be very brief, Mr. Chairman. I just want to mention a couple of major factors which I think we need to be refocused upon.

Number one, that it's very little has been said that the—regarding the accident at Chase, Maryland regarding as to D rails. Those D rails were removed some years ago at the request of Conrail, and the FRA granted them. I think it would be a great step forward to replace those D rails at all interlocking places as sidings to ensure that this type of accident doesn't happen again.

The final thing I'd at least like to mention is that the widespread problem of radio failures throughout the railroad industry is that every time an engineer leaves a terminal or a commuter train leaves a terminal with a nonworking radio or weak batteries or is in a dead spot, this puts the train in jeopardy, and I think that this committee should take a very close look at that.

Thank you.

Mr. **Mann**. Mr. Chairman, he just raised one other point. Mr. Riley stated that rail labor opposed radio provisions. That is an absolute falsehood. We support it, it's in our testimony there. The only statement that he could possibly misconstrue was a statement by the president of the Locomotive Engineers who stated that we didn't ask for the radios, and maybe the signal systems were more effective in preventing accidents, but since they are here, we want them to be safe.

Mr. **McMillen**. I appreciate your correction that.

One last question I'd like to ask, if anybody wants to address it, is on the—the random testing What is your various opinions on the proposals for random drug and alcohol testing of employees?

Mr. **Mann**. Mr. Chairman, I have been handling the litigation that Mr. Riley likes to bring to everyone's attention. The sole—the sole issue that we have raised——

Mr. **McMillen**. We have a vote. Continue.

Mr. **Mann**. I'll be very quick, Mr. Chairman.

Mr. **McMillen**. Go ahead.

Mr. **Mann**. The sole issue that we have raised is the unconstitutionality of what they have done. The issue is under our constitutional system is whether you can search someone without any cause whatsoever. That is probable cause. It just seems to me that if a robber or murderer or any other criminal has a right in those protections, a rail worker should have it also. But the point is that is our only issue that we have raised in the court suit. And we will raise that with respect to any case.

See, our purpose is not to protect that person who may be guilty. That's not our—our purpose. Our purpose is to protect those thousands of employees who never use alcohol or drugs. And as to the random testing, we have a 10-point proposal that is now pending, it will be pending before the House in the very short future, but pending in the Senate now, what we feel should be done in that area.

Just briefly, when an employee is targeted to be randomly tested, we feel there should be a preliminary dexterity type test performed, such as measuring the pupils, pulse, blood pressure, making him walk a straight line, touching your nose with your eyes closed; those kinds of things. And if a certified technician determines that there is some reason, however minute that reason may be, some reason to suspect that that employee is under the influence, then go to the next step of urinanalysis or blood test. This procedure which we are adopting is almost the same as, which was highly praised by the Secretary of Transportation in the Los Angeles Police Department.

In a review by the National Institutes of Drug Abuse, it was determined that a trained police officer could detect the drugs that was used by an employee and indeed could identify the particular type drug. And that's the program that we are espousing.

Mr. McMillen. Do you have any comments on that, Mr. Garner or Mr. Capon?

Mr. Garner. No, not really. The things we were interested in primarily were the safety board in the earlier years was the number of accidents in which we did find that alcohol had a very prominent part on, and it wasn't too far back till we found the first case, of course, where the crew had marijuana. But regardless of which way it goes, we are very—I am very happy that this is being followed.

Mr. McMillen. Mr. Capon?

Mr. Capon. As my testimony, my printed statement indicates, we support Mr. Riley on—on this issue. I think that on the other side the Los Angeles Police Department thing was brought up. I don't have any first-hand knowledge of it, but I believe the testimony on the other side indicated that two differences, one is that railroad supervisors have a lot of other things going, and the other is that I believe in the study they were looking at a population that was prone to—to abuse in the first place; whereas with railroad workers, we know that at least 95 percent of them are drugfree. And, by the way, those 95 percent who are drugfree are the ones that are most at risk from the ones that are not drugfree.

Mr. McMillen. Any other comments?

Well, given the lateness of the hour, I think it's appropriate to adjourn. I just would like to say thank you to everyone who has participated today. Obviously the incorporation of technology into rail safety is a very, very important issue. It certainly struck home in my state of Maryland, and we are hopeful that these hearings have been productive in giving us some insight as to what we can do in the future to make our railways more safe. And I thank you for your——

Mr. **Snyder**. Mr. Chairman, on behalf of Railroad Labor, we stand ready to work with your committee and staff on these issues any time.

Mr. **McMillen**. Thank you.

The meeting is adjourned. Thank you.

[Whereupon at 5:10 p.m., the hearing was adjourned.]

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